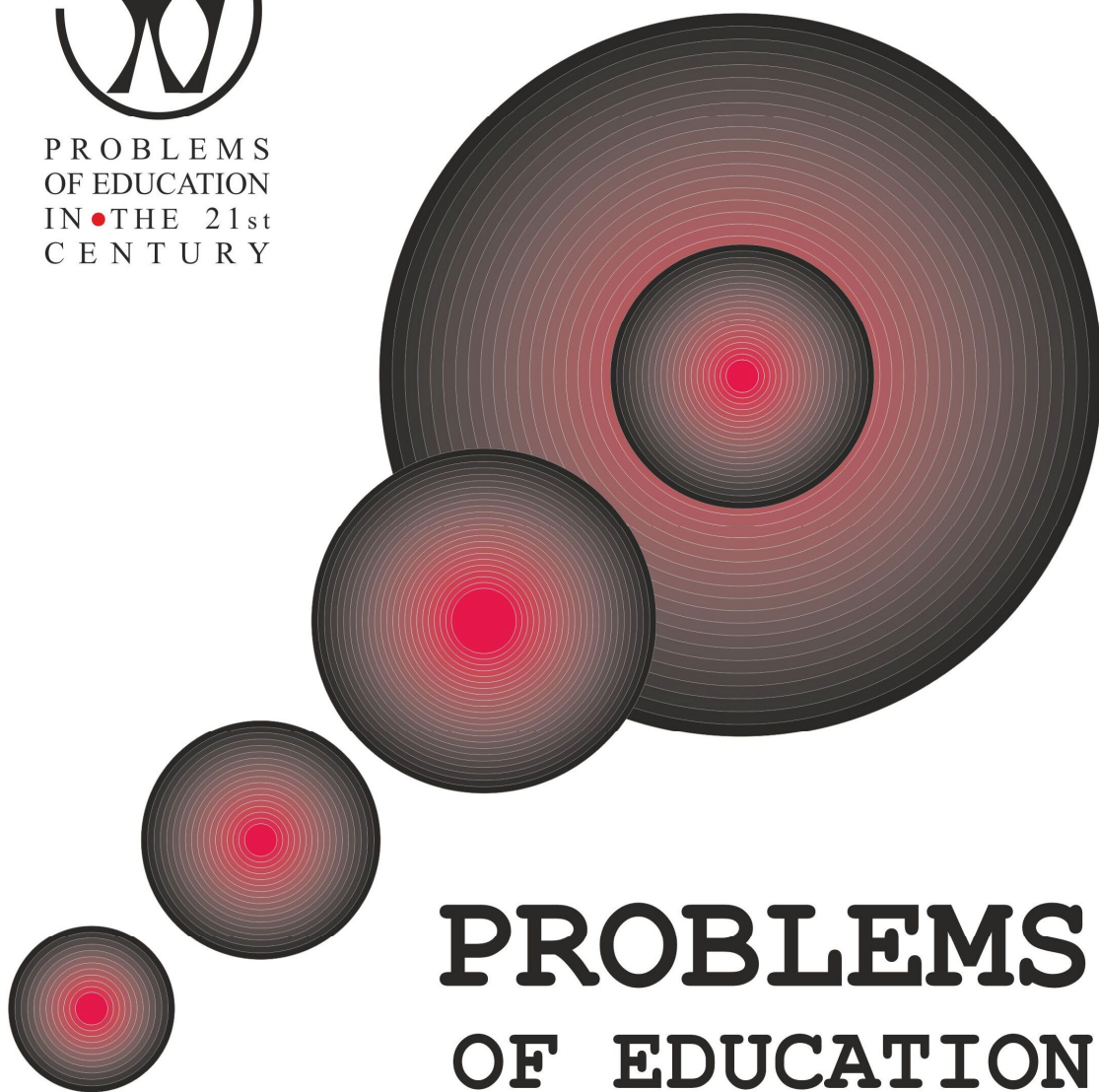


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Address: Scientia Socialis, Ltd.
Donelaičio Street 29, LT-78115 Siauliai, Lithuania
E-mail: scientia@scientiasocialis.lt
Phone: +370 687 95668
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HOW TO STOP THE DISINTEREST OF STUDENTS TOWARD SCHOOL SUBJECTS?

Milan Kubiátko

J. E. Purkyne University, Czech Republic

E-mail: mkubiátko@gmail.com

First of all, I would like to thank for the possibility to write an editorial on this issue. Actual problems, which are presented in learning and teaching process are huge. However, to choose some of them, is also a demanding situation. As a researcher and also as a teacher, I often attend primary and secondary schools and try to communicate with teachers, not only of science subjects. The results of the conversations are aimed mainly at the big disinterest in learning material and the meaning of any subject.

Disinterest is obviously defined as a cause to regard something with no interest or concern. As it is mentioned in many studies, the interest in school subjects is decreasing. The factors causing this state are many, the excessive using of different information and communication devices among students of different age cohorts diverts attention from the learning topics and materials, and it can cause disinterest in students about all schools' activity. The teachers and also researchers are trying to suggest many activities and improvements to eliminate disinterest. It is possible to mention an option, how to stop decreasing interest in any school subject, and it is possible to find it in the relatively new curricular efforts. As a good example serves STEM (science, technology, engineering, and math) subjects. STEM is introduced, used and popular in some countries, where the educational process is developing and where there is an effort to focus on the student(s). As it is also possible to find in many theoretical and empirical studies, the connection of some subjects in one unit could be beneficial for many parts of the educational process. For example, teachers are not separate units, but they input in the teaching process together, they are preparing and creating the common topic simultaneously. Teachers could be in consensus within the preparation process for STEM lessons.

Students could see the interconnection, not only between subjects but also among disciplines. So, they (students) probably have got a better understanding of the topic from various points of view. They are able to observe not only the separate processes in subjects like biology, chemistry, etc, but they also have the possibility to understand processes and phenomena in a holistic way, which is typical for the whole discipline. As a good example is photosynthesis, which is in many curricular documents typical for a biology curriculum, but, as we know, they are also presented parts, which are typical for chemistry, physics, and mathematics. In the typical classes, where the STEM does not exist are the processes and aspects of photosynthesis taught separately in different grades. It could cause the misunderstanding of this abstract topic and the creation of many misconceptions among students, which will be persistent till adulthood (e.g., Atchia et al., 2022; Butler et al., 2015). In the case of STEM lessons, the presence of separate units is not presented, so the number of misconceptions and misunderstandings is rapidly decreasing. The number of wrong understandings of some concepts is decreasing, not only in the example of photosynthesis but in all scientific topics (Hasanah, 2020). STEM has a direct influence on the interest toward learning in a general view. As Chiang and Liu (2023) or Staus et al. (2020) quoted in their study the interest toward scientific subjects increased, when the learning process was performed by STEM, not a separate learning process of scientific subjects. The increasing of interest was in every examined group, namely

boys and girls, students from different residences etc., without any statistical differences. Only brief notice, when the scientific subjects were taught separately, the interest in them was low in every observed variable and some differences between groups were found. This connection between different subjects and disciplines is possible to realize in many cases, not only in scientific subjects but it could also be realized in unofficial versions. It depends on the creativity and fantasy of teachers. The researchers could serve as creators of suggestions, on how to improve the interest of students about school and school subjects on the basis of their research. And teachers could try to realize new methods and forms of the teaching process.

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Milan Kubiato

PhD, Assistant Professor, Department of Preschool and Primary Education, Faculty of Education, J. E. Purkyne University, Pasteurova 1, 400 96 Usti nad Labem, Czech Republic.
E-mail: mkubiato@gmail.com
Website: <http://fwww.kubiato.eu>
ORCID: <https://orcid.org/0000-0002-4343-9609>



EFFECTS OF A SHORT COURSE TRAINING PROGRAM ON APPROACHES TO TEACHING IN HIGHER EDUCATION: EXAMPLE FROM CROATIA

Rona Bušljeta Kardum, Dunja Jurić Vukelić, Lovorka Brajković

University of Zagreb, Croatia

E-mail: rbusljeta@hrstud.hr, djuric@hrstud.hr, lbrajkov1@hrstud.hr

Abstract

European countries, in accordance with their higher education policy, regulate in various ways the need for additional professional education of higher education teachers. In the Republic of Croatia, despite the recognized need to improve the process of teaching and learning at the higher education level, efforts and activities in this direction are left to the universities.

The main aim of the present study was to examine how the participants of the short course training program on approaches to teaching in higher education in Croatia perceived their own teaching and learning competencies before and after attending the program. University teachers from five higher education institutions in the Republic of Croatia participated in the research. The participants assessed agreement with the statements related to various teaching competencies, important for university teachers, on a 5-point Likert-type scale. The results obtained through research quantitative and qualitative methods indicate that the participants of the short course training program on approaches to teaching in higher education evaluate their own teaching competencies better at the end than at the beginning of the program. The obtained results indicate the importance of formal training and improvement of teaching competencies of university teachers and can serve as an assessment of the expediency of the short course training program on approaches to teaching in higher education at the national level and as a basis for comparison with programs implemented at other European universities.

Keywords: *higher education, short course training program, teacher training, university teachers*

Introduction

The European higher education development policy aims to improve the quality of higher education in the European area, which is clearly visible in European strategic documents after the year 2000. Thus, in numerous documents, announcements, reports, standards, and guidelines, the need for professional development of higher education teachers in the European higher education area is emphasized (Bergen Communiqué, 2005; Berlin Communiqué, 2003; Crosier et al., 2014; COM, 2003; EC, 2011; European Commission, 2014; EC, EACEA and Eurydice 2014; ESG, 2015; EUA, 2009; Fabrice, 2010). Although a significant number of European countries do not require education in teaching competencies as a mandatory requirement for teaching in higher education, the quality of higher education is increasingly becoming a topic of scientific research with a tendency towards standardizing the development of teaching competencies based on standards for primary and secondary education (Postareff et al., 2008).

For quite some time, higher education teachers were expected to be experts in their scientific field (competent researchers), and less attention was paid to the competencies of higher education teachers that involve knowledge and competencies in adapting and transmitting professional knowledge to students and how to stimulate the learning process (Berthiaume, 2009; Martin & Parikh, 2017; Michael & Libarkin, 2016; Postareff et al., 2007).

The importance and need for additional education of university teachers in order to improve the quality of the teaching and learning process began to be emphasized in scientific studies, especially in the late 1990s. In this regard, scientific studies have pointed to the correlation between effective teaching and successful learning (Allan et al, 2009; Ambrose et al, 2010, Postareff et al. 2007; Ramsden, 2003) and the correlation between training and development of teaching competencies of university teachers and a more successful learning process by preparing and organizing student-centered teaching (Butcher & Stoncel, 2012; Gibbs & Coffey, 2004; Postareff et al., 2007; Stes et al. 2010).

However, it is not easy to determine what effective teaching involves, since it is conditioned by numerous factors that directly or indirectly affect it. Nevertheless, if we try to identify the main characteristic of effective teaching in higher education, it can be said that the main characteristic is based on the necessity of putting the student at the center of the teaching process, which involves active student participation in the learning process (Beaten et al., 2010; Damša & de Lange, 2019; Weimer, 2013). An explanation of student-centered teaching includes, among other things, that university teachers possess knowledge and competencies related to setting learning aims and outcomes; recognizing different learning styles among students; knowledge of strategies that encourage active learning; knowledge of different ways of evaluating students as well as the process of self-evaluation (Caffarella & Daffron, 2013; Fink, 2013; Healey 2005; Ramsden, 2003; Struthers et al., 2018; Svinicki & McKeachie, 2014). The aforementioned knowledge and competencies related to effective teaching in higher education clearly indicate that working with students involves competencies that go beyond professional knowledge related to a particular scientific field.

The Republic of Croatia is part of the European higher education area and is affected by the trend of considering the necessity of continuous education of teachers in higher education and the need for additional training in the area of effective teaching for university teachers. A significant step in this direction in Croatia was made in 2014 with the adoption of the Education, Science and Technology Strategy of the Republic of Croatia, which emphasizes the importance of designing and implementing additional programs for acquiring and improving teaching competencies of university teachers. However, to date, no significant progress has been made towards the obligation to implement additional programs on approaches to teaching for university teachers.

At the national level in Croatia, there is still no legal provision that obliges university teachers to complete a short course or training program on approaches to teaching in higher education. Nevertheless, it should be noted that relatively recently, at the initiative of individual faculties in Croatia, short course-training programs have been developed aimed at providing additional education to university teachers in terms of approaches to teaching in higher education. Currently, there are four such programs in Croatia, and one of them has been implemented at the Faculty of Croatian Studies at the University of Zagreb since 2020 and is open to university teachers from other faculties of the University of Zagreb.

The short course training program on approaches to teaching in higher education at the Faculty of Croatian Studies at the University of Zagreb covers topics related to learning theories and student motivation, ways of setting learning outcomes in higher education teaching, conducting active and collaborative learning in higher education teaching, appropriate ways of assessing students, as well as self-evaluation processes and the development of communication and social competencies. Certainly, these topics do not cover the breadth of what effective teaching in higher education entails, but all of the above is often considered in scientific and professional literature as the foundation of teaching work and a prerequisite for a successful teaching and learning process (Allan et al, 2009; Fakhruddinova et al, 2020; Moreira, 2023; Ramsden, 2003; Zhu et al, 2013).

Research Problem

The fact that short course training programs in higher education are not usual lifelong learning programs for university teachers in Croatia has led to a lack of extensive studies on the effects of such programs in improving the quality of teaching and learning processes at the higher education level in Croatia. Therefore, the conducted research can serve as an assessment of the effects of the short course training program on approaches to teaching in higher education at the national level and as a basis for comparison with programs implemented at other European universities.

Research Focus

The research focus was identifying the extent to which there has been a change in attitudes towards teaching competencies and approaches among participants after attending the short course training program on approaches to teaching in higher education.

Research Aim and Research Questions

The main aim of the present study was to examine how the participants of the short course training program on approaches to teaching in higher education in Croatia perceived their own teaching and learning competencies before and after attending the program. Hence, two specific research questions were formulated as follows:

- Which teacher competencies do they consider to be the most important for teaching in higher education?
- Are there differences in the assessment of the importance of certain competencies at the beginning and at the end of the short course training program on approaches to teaching in higher education?

Research Methodology

General Background

This study recognizes the importance of continuous professional development for university teachers, particularly in enhancing their teaching competencies. The short course training program serves as an intervention to provide teachers with the opportunity to enhance their pedagogical knowledge, educational strategies, and overall teaching effectiveness. By comparing the self-assessments at the beginning and the end of the training, the researchers aim to determine the effects of the program in improving teaching competencies. This study seeks to contribute to the existing knowledge on the effect of short course training programs on enhancing teaching competencies and ultimately improving the quality of higher education instruction. The study employed a mixed-methods approach, incorporating both quantitative and qualitative methods. The purpose of combining these research approaches was to gain a holistic understanding of university teachers' perceptions on the importance of teaching competencies.

Sample

For the quantitative data, 31 university teachers were selected according to a convenience sampling method. Convenience sampling is a non-probability sampling method which involves selecting participants based on their accessibility and willingness to participate, rather than

using a random or representative sampling approach (Milas, 2004). Limitations of convenience sampling are the possibility that the sample isn't representative of the entire population and the limited generalizability of the findings. However, this research was focused on a specific group within the relatively small population of university teachers in Croatia and specific characteristics of teaching competencies. Participants were teachers of the Faculty of Croatian Studies, Faculty of Transport and Traffic Sciences, Faculty of Mining, Geology and Petroleum Engineering, Faculty of Philosophy and Religious Studies and Algebra University College, conducted in the period from February 7 to June 10, 2022. 56.2% of the participants were male, and 43.8% were female. The average age of the participants was $M = 32.7$ years, $SD = 6.1$, with a large total age range: the youngest participant was 25, and the oldest was 52 years old. The research was approved by the ethics committee of the Faculty of Croatian Studies.

Instrument and Procedures

Empirical data obtained by the self-assessment by participants, collected by an anonymous questionnaire constructed for the purposes of this study, was used in the present study. The questionnaire was intended for teachers in the higher education system. The participants assessed agreement with the statements related to various teaching competencies, important for university teachers, on a 5-point Likert-type scale. Demographic questions included data on age, gender, university and department where the participants hold classes.

The participants took part in the one-month program by attending six teaching modules in duration: 1) learning theories, learning styles, motivation and lifelong learning, 2) academic achievements ("learning outcomes") in higher education, 3) active and collaborative learning in higher education, 4) monitoring, evaluation and assessment in higher education, 5) digital tools in higher education and 6) communication and social competencies in higher education teaching. Empirical results were obtained using the self-assessment method: at the beginning and at the end of the program, participants filled out questionnaires about attitudes towards the program in general and towards individual aspects of the application of educational principles in higher education teaching, constructed for the present study. 36 participants in the first wave, at the beginning of the program, and 31 participants in the second wave, at the end of the program, participated in the research. The reliability of the applied questionnaire was satisfying; Cronbach's Alpha was $\alpha = .73$.

Data Analysis

After gathering the participants' responses, descriptive statistics such as means and standard deviations were obtained. Additionally, the data were coded based on the following variables: gender, the faculty and department where they work, and whether responses were collected at the beginning or at the end of the program. For the purpose of testing differences in perception at the beginning and end of the program, analysis of variance was performed. Qualitative data were collected in a way that participants answered open-ended questions about the competencies that they considered important for work in the higher education system and about competencies that they would like to acquire through future professional training. The answers are categorized into four categories and presented with selected examples in the second part of the Results. The quantitative data were analyzed using the Software Package for Statistical and Social Sciences (SPSS, 20).

Research Results

The results in Table 1 show descriptive data, means and standard deviations, individually for each statement in the questionnaire at the beginning and at the end of the program. The results

presented in this way provide an insight into the perception of the participants about the different examined aspects of the short course - training program on approaches to teaching in higher education. Research Results showed that at the beginning of the program, the highest average marks were assigned to items that emphasized the role of creating a working atmosphere in class ($M = 4.50$, $SD = 0.56$), the role of the lecturer's communication competencies in encouraging students' motivation ($M = 4.50$, $SD = 0.61$) and the importance of motivation for mastering teaching competencies ($M = 4.46$, $SD = 0.74$). The participants also assessed the continuous evaluation during the semester as significant ($M = 4.42$, $SD = 0.94$) and the availability of the program on approaches to teaching in higher education to all university teachers, regardless of their professional titles ($M = 4.28$, $SD = 1.06$). In the self-assessment of competencies, the participants consider themselves competent in using digital tools in lectures ($M = 4.36$, $SD = 0.76$), achieving learning outcomes set at the class level ($M = 4.23$, $SD = 0.73$) and encouraging active and collaborative learning ($M = 4.19$, $SD = 0.86$), and the least competent in presenting content to students by taking into account different learning styles ($M = 3.33$, $SD = 0.93$). The lowest estimates were given to claims of a negative direction: claims that they do not need the program because they have developed teaching competencies ($M = 2.81$, $SD = 0.95$), that programs on approaches to teaching are necessary for teachers in primary and secondary schools, and not to teachers in higher education ($M = 2.06$, $SD = 1.26$), that digital tools in higher education teaching have more disadvantages than advantages ($M = 1.97$, $SD = 1.25$), that they believe that they will not use what they would hear in the program on approaches to teaching in practice ($M = 1.61$, $SD = 0.73$) and that they do not understand the obligation to attend the program on approaches to teaching for university teachers ($M = 1.58$, $SD = 0.94$).

At the end of the program, the participants gave the highest assessments to similar statements as at the beginning of the program: communication competencies of lecturers and their role in motivating students to work ($M = 4.9$, $SD = 0.30$), continuous evaluation during the semester ($M = 4.71$, $SD = 0.64$), encouraging active and collaborative learning ($M = 4.45$, $SD = 0.68$) and using digital tools in teaching ($M = 4.45$, $SD = 0.77$). However, compared to the first step of the research at the beginning of the implementation of the program, an increase was recorded in almost all average responses. In the following, we checked the statistical significance of the change for individual claims.

Table 1
Descriptive Results on Individual Claims

	$M_{beginning}$	$SD_{beginning}$	M_{end}	SD_{end}
I expect that the short course - training program on approaches to teaching in higher education will be useful in my future teaching work.	4.08	0.87	4.32	0.87
I have developed methodological competencies and I think that I do not need this program.	2.81	0.95	2.39	1.05
I expect that the short course - training program on approaches to teaching in higher education will be interesting.	3.86	1.02	4.19	0.91
This program will contribute to the quality of teaching at my faculty.	4.00	0.94	4.39	0.80
I am highly interested in participating in the short course - training program on approaches to teaching in higher education.	3.44	1.25	4.00	1.15
I expect that with the help of the short course - training program on approaches to teaching in higher education, I will gain valuable knowledge and develop useful competencies.	3.92	0.91	4.23	0.80

Teaching competencies are a condition for quality teaching work in higher education.	4.11	0.87	4.65	0.61
Teaching competencies can hardly be acquired through education if one is not a good teacher by nature.	3.26	1.24	3.32	1.22
Teaching competencies can hardly be acquired through education if the individual is not motivated to be a good lecturer.	4.46	0.74	4.39	0.76
Teaching competencies are just as important as professional knowledge for teaching work at universities.	3.97	0.79	4.35	0.95
Short course - training program on approaches to teaching in higher education should be completed by all those who teach at higher education institutions, regardless of their title.	4.28	1.06	4.52	1.03
There should be workshops related to approaches to teaching so that university teachers are familiar with novelties and innovations in the field of higher education pedagogy/methodology.	4.17	0.94	4.52	1.03
I believe that I will not use anything of what I will hear in the framework of the short course - training program on approaches to teaching in higher education in practice.	1.61	0.73	1.52	0.68
I do not understand the obligation short course - training program on approaches to teaching in higher education.	1.58	0.94	1.52	0.96
I believe that the short course - training program on approaches to teaching in higher education should be a legal obligation.	3.39	1.25	3.68	1.38
Short course - training program on approaches to teaching in higher education should have a unique program at the state level.	3.72	1.28	4.00	1.44
In addition to the short course-training program on approaches to teaching in higher education, there should also be various shorter educational seminars and workshops for improving teaching competencies for university teachers, organized at the University level.	3.57	1.01	4.00	1.13
Short course - training program on approaches to teaching in higher education can be useful only by teachers in primary and secondary schools, not by teachers in higher education.	2.06	1.26	1.97	1.30
I believe that I have an excellent command of the subject(s) that I teach at the university.	3.71	1.10	3.87	0.67
I am always well prepared for my lectures/seminars/practice exercises.	4.14	0.72	4.03	0.66
I always prepare professionally and methodically for lectures/seminars/practice exercises.	4.03	0.77	3.84	0.82
I know the basic theories of learning are important for quality teaching.	3.44	0.84	3.58	0.67
I know how to present content to students with different learning styles in mind.	3.33	0.93	3.71	0.64
I am sure that the students understand what I want to achieve in my lectures/seminars/exercises.	3.80	0.68	3.84	0.58
At lectures/seminars/exercises, I make students aware of the importance and need of lifelong learning.	3.61	1.02	4.03	0.84
I understand the importance of setting goals and learning outcomes at the subject level.	4.06	0.75	4.32	0.75
I know how to achieve learning outcomes at the subject level in lectures/seminars/practice exercises.	3.97	0.65	4.13	0.81
I can list the competencies that students have acquired after listening to and passing my course or doing seminars/exercises.	3.94	0.83	4.39	0.56
In lectures, I encourage active and collaborative learning.	4.19	0.86	4.45	0.68

During the semester, I achieve the learning outcomes that I have set at the subject level (which the professor has set at the subject level).	4.23	0.73	4.39	0.67
I create a working atmosphere in lectures.	4.50	0.56	4.48	0.57
I use different teaching methods and strategies to encourage student activity in lectures.	3.97	0.81	4.32	0.54
In my lectures, students are encouraged to engage in higher cognitive processes such as analysis, synthesis, reasoning, making associations...	4.19	0.89	4.26	0.68
I evaluate students' acquired knowledge and competencies during lectures.	3.83	0.75	4.03	0.87
I evaluate student achievements only at the end of the semester.	2.22	0.99	2.71	1.40
It is important to evaluate students throughout the semester.	4.42	0.94	4.71	0.64
I value the learning outcomes that I have set at the subject level (which the professor has set at the subject level).	3.85	0.89	3.97	0.91
I am preparing for the lecture with constructive alignment in mind.	3.43	0.88	3.55	0.89
I consider myself proficient in using digital tools in class.	4.36	0.76	4.45	0.77
Digital tools should be used as little as possible in higher education.	2.03	1.25	1.77	0.92
I use different digital tools in lectures.	3.78	1.15	4.16	1.04
With the help of digital tools, it is not possible to stimulate students' activity and achieve higher cognitive processes.	1.86	0.83	1.87	1.09
Digital tools in higher education have more disadvantages than advantages.	1.97	1.00	1.77	0.96
The communication competencies of lecturers are important for motivating students to work.	4.50	0.61	4.90	0.30
I know appropriate verbal and non-verbal communication techniques.	3.83	0.94	4.06	0.77
Communication with colleagues and students is always stimulating and constructive.	4.25	0.73	4.16	0.69

As shown in Table 2, analysis of variance showed that there are differences in the assessment of participants at the beginning and at the end of the program on some statements. At the end of the program, the participants estimated that teaching competencies are a condition for quality teaching work in higher education with significantly higher estimates ($M = 4.65$, $SD = 0.61$) compared to the estimates at the beginning of the program ($M = 4.11$, $SD = 0.87$, $F = 8.09$, $df = 64$, $p = .01$). Also, the participants estimated their ability to define the competencies that students acquired after listening to and passing the course or completed seminars or exercises as significantly higher at the end of the program ($M = 4.39$, $SD = 0.56$) compared to the beginning of the program ($M = 3.94$, $SD = 0.83$, $F = 6.38$, $df = 64$, $p = .01$). An increase in the average assessment was also recorded in the assessment of the use of different methods and strategies in stimulating student activity in lectures ($M = 3.97$, $SD = 0.81$ at the beginning and $M = 4.32$, $SD = 0.54$ at the end of the program; $F = 4.19$, $df = 65$, $p = .04$) and in assessing the role of lecturers' communication competencies in motivating students ($M = 4.50$, $SD = 0.61$ at the beginning and $M = 4.90$, $SD = 0.30$ at the end of the program; $F = 11.21$, $df = 65$, $p < .001$).

Table 2

Comparison of Attitudes about Short Course Training Program on Approaches to Teaching in Higher Education at the Beginning and at the End of the Program

Questionnaire items		SS	df	MS	F	p
Teaching competencies are a condition for quality teaching work in higher education.	Between groups	4.63	1.00	4.63	8.09	.01
	Within groups	36.64	64.00	0.57		
	Total	41.27	65.00			
I can list the competencies that students have acquired after listening to and passing my course or doing seminars/ practice exercises.	Between groups	3.26	1.00	3.26	6.38	.01
	Within groups	33.24	65.00	0.51		
	Total	36.51	66.00			
I use different teaching methods and strategies to encourage student activity in lectures.	Between groups	2.04	1.00	2.04	4.19	.04
	Within groups	31.75	65.00	0.49		
	Total	33.79	66.00			
The communication competencies of lecturers are important for motivating students to work.	Between groups	2.71	1.00	2.71	11.21	< .01
	Within groups	15.71	65.00	0.24		
	Total	18.42	66.00			

The participants were asked four open-ended questions with the aim of determining the competencies that university teachers considered necessary and important for work in the higher education system, as well as competencies that they would like to acquire through future professional training. The questions were asked in the form of asking for an assessment of which contents in the program were the most useful to them, what they would single out as the least useful, whether they had any suggestions for improving the program and which topics within the program they would like to hear more about.

26 out of a total of 31 participants (83.9%) answered the question of what they would consider most useful in the short course - training program on approaches to teaching in higher education. In most of the answers, 8 of them (30.8%), participants mentioned communication and social competencies. The next category of answers related to the application of different methods and techniques in imparting knowledge and encouraging active participation of students in classes, which was stated in 7 answers (26.9%). Six answers (23.1%) emphasized the importance of learning outcomes, five answers (19.2) practice exercises and the practical part of the program, three answers (12%) constructive alignment, two answers each (7%) motivation, communication between participants that enabled the exchange of opinions and different experiences, and the opinion that the entire content of the program was useful. At the individual level, the role of empathy and self-evaluation in the work and professional development of university teachers and the introductory lecture on the importance of methodical competencies of teachers in higher education were mentioned.

Examples of answers to the question about the most useful part of the program with related categories:

Teaching methods, communication, self-evaluation: *Acquiring new knowledge related to teaching methods, students' learning and memorizing, and the importance of good communication. I believe that the teachers are encouraged to ask questions about the quality of their work, which is a good thing.*

Learning outcomes, constructive alignment, self-evaluation: *The program encouraged me to think about how well my lectures and exercises are aligned with learning outcomes and how well I transfer knowledge to my students. Showing video material (films). Encouragement to*

think about how to restructure my lectures and exercises to encourage logical reasoning in students.

Everything: *In my opinion, each segment was very useful in its own right, and I cannot single out just one thing. Every lecture and workshop will have a positive effect on my development and my teaching activity.*

19 participants (61.3%) answered the question, which part of the content they heard during the short course - training program on approaches to teaching in higher education they considered least useful. The largest number of responses, 11 of them (57.9%) pointed out that the entire program was useful to a lesser or greater extent. Five participants (26.3%) singled out the theoretical basis as the least useful in their answers, and three participants (15.8%) stated that part of the content was already known to them from before and specifically singled out learning outcomes and methods of evaluating students' knowledge. Individual participants emphasized the need to adapt the content to the target audience - specifically, the definition of learning outcomes should be intended for professors, not teaching assistants; also, prior knowledge that significantly determines the personal benefit of the program, and the unattractiveness of some presentations.

Examples of answers to the question about the least useful part of the program:

Target audience: *I believe that the modules for defining learning outcomes should be adapted to the target audience, the professors. Teaching assistants implement something they did not "write", and the outcomes of the case are often outdated.*

Everything was useful: *In my opinion, there was no useless part because the program is not individual and not everyone has the same prior knowledge and the same abilities.*

Less theory, more practice: *Personally, there was a little too much of a theory for me (but only a little) because this was not my first education like this.*

Suggestions for improving the program were given by 21 participants (67.7%). In their answers, the participants most often singled out the need for additional exercises and practical examples - 9 participants, or 42.9%. An additional emphasis on communication competencies was highlighted in three responses (14.3%), as well as the focus of the program on all teachers, not only assistants, and the proposal to schedule the workshops earlier in the day instead of in the afternoon. At the individual level, suggestions for adapting the content to the specific faculties and departments where the participants teach, more visually attractive presentations with less text, checking the prior knowledge of the participants with the aim of setting the appropriate level of complexity of the program, and continuing the program where all topics would be covered in more detail were highlighted.

Examples of suggestions for program improvement:

More practice exercises: *Focus more on exercises during lectures. Put more emphasis on practicing the communication and teaching competencies of teachers through the type of working group, presentations, etc.*

Target audience: *To involve other teaching staff. To add some more exercises at the end so that we remember the important things as well as possible.*

Pre-checked competencies: *The competencies of the participants should be checked in order to set a certain (appropriate) level of complexity and new knowledge.*

When asked about topics they would like to hear more about, 17 (54.8%) participants answered and highlighted communication and social competencies in the first place in their answers (6 or 35.3% of answers). In second place are different methods and techniques of teaching and motivating students with a total of 5 answers (29.4%). Four participants (23.5%) stated in their answers that they would like to hear more about all topics and work on them in more detail. Three participants (17.6%) mentioned continuous evaluation of knowledge during the semester as a topic they would like to know more about. Two responses each (11.7%) emphasize the importance of competencies for working with students in smaller and larger groups, adapting work to the individual needs of students and different learning styles, and presentation competencies. One participant emphasized the need to acquire knowledge about methods of

reaching disinterested actors in the higher education system, and how to instruct them to correct deficiencies.

Examples of answers:

Work with a large group of students: *How to work with students in larger and smaller groups. How to approach, teach, and evaluate when there are large groups of students.*

Changes on a higher level: *How to reach out to disinterested members of the entire higher education system, and how to instruct them to correct the shortcomings, without taking it as "nonsense".*

Everything: *Actually, I would like to hear more about everything, because, despite the large amount of useful information, I think that we have only scratched the surface and that such workshops are constantly necessary in order to increase the quality of our work and teaching and, in general, some of our personal qualities.*

Discussion

The main aim of the present study was to examine how the participants of the short course training program on approaches to teaching in higher education in Croatia perceived their teaching and learning competencies before and after attending the program. In the context of assessing the importance of individual competencies, the results indicated the dominance of the lecturer's communication competencies, motivating students, continuous monitoring and evaluation, knowledge transfer with an emphasis on understanding the material, creating a stimulating work atmosphere, and active, collaborative learning. The results are in line with the results of contemporary research that emphasize the importance of the same competencies, with the addition of digital competence, which became a priority during the Covid-19 pandemic (Dervenis et al., 2022). The results showed that university teachers attach great importance to continuous student evaluation during the semester, communication competencies of university teachers aimed at student motivation, and believe that creating a working atmosphere and encouraging active and collaborative learning is important. The participants identified communication and social competencies, verbal and non-verbal communication techniques, and more practical activities as topics they would like to learn more about. Compared to other studies (Fernández-Batanero et al., 2021), the participants placed less emphasis on digital competencies and assessed them as good. Although a significant part of the feedback was of a technical nature (for example, the attractiveness of presentations or the timing of the program earlier in the day when participants' motivation and energy levels are higher - and in choosing the timing, the organizers prioritized the times when participants did not have classes), suggestions for improving the program in the form of greater emphasis on practical activities and communication competencies leave room for program development, but also positive impressions through expressed desires for continuation and more detailed coverage of all topics covered. The diversity of participants' responses to open-ended questions indicates individual expectations and the perceived benefits gained from the short course training program on approaches to teaching in higher education.

The results are in line with previous studies in which oral and written communication and different aspects of teaching planning and delivery were also identified as priorities, along with the addition of information literacy, which participants today likely assume has been achieved to a satisfactory level (Miočić, 2016). Participants also showed a positive attitude towards education in the field of teaching competencies, with confidence in the applicability and usefulness of acquired competencies in teaching, but also voluntary participation in additional forms of education compared to legally prescribed obligations. These results are consistent with the findings of our research, in which participants rated themselves less competent in understanding and applying learning theories, evaluating learning outcomes, teaching based

on knowledge of different learning styles, and constructive alignment. Expected differences in participants' responses at the beginning and end of the program were achieved in the areas of beliefs about teaching competencies as a prerequisite for quality teaching, listing competencies acquired after completing and passing the course, applying different teaching methods and strategies to encourage student engagement in class, and the role of communication competencies in motivating students. These differences were particularly evident in participants' responses to open-ended questions, in which participants once again emphasized communication and social competencies, as well as competencies for achieving active and collaborative teaching. Communication competencies predominated in the frequency of responses to the question of what should be added to the program to provide an even higher quality platform for personal and professional growth and development. Similar positive results, which justify optimism in promoting the significance of programs for developing teaching competencies for university teachers, have been obtained in other studies, in the context of a change in teaching approach among teachers in higher education after only twenty hours of the program on approaches to teaching for university teachers (González-Geraldo and Monroy, 2017), an increase in the proportion of teaching directed towards students (González Geraldo et al. 2021), but also evidence of two-way effects through a perceived deep approach to learning, focus on meaning and understanding of material, among students whose teachers participated in the program to acquire teaching competencies (Marchant et al., 2018).

Conclusions and Implications

This research, in which university teachers participated as part of a short course training program on approaches to teaching in higher education, aimed to explore the perception of university teachers towards such programs and whether there were differences in the perception of their own teaching process among program participants before and after attending the program.

The results suggest that university professors, after completing the program, assess teaching competencies as more important for quality teaching in higher education. In addition, research participants evaluate their competencies related to defining acquired student competencies after attending the course, as well as competencies related to using various methods and strategies to encourage student activity in lectures, and place greater importance on communication competencies as one of the elements of student motivation.

It is important to note that the small number of convenience-sampled research participants who were motivated to attend the training program is the main limitation of the study, which may have affected the results and precluded the possibility of generalization. Nevertheless, given that this is a specific population with similar expectations, interests, and experiences, but also with significant differences in initial knowledge, competency development, motivation, and desire for improvement, the research results indicate that the participants of the short course training program on approaches to teaching in higher education evaluate their own teaching competencies better at the end than at the beginning of the program and provides valuable data on the self-assessment of teaching competencies among university professors and represents a possible basis for the development of new programs as well as future research on the need, justification, effectiveness, and usefulness of short course training programs on approaches to teaching in higher education.

Declaration of Interest

The authors declare no competing interest.

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Rona Bušljeta Kardum PhD, Professor, Faculty of Croatian Studies, University of Zagreb, Borongajska cesta 83d, 10000 Zagreb, Croatia.
E-mail: rbusljeta@hrstud.hr
Website: https://www.hrstud.unizg.hr/staff/rona.busljeta_kardum
ORCID: <https://orcid.org/0000-0002-7158-0044>

Dunja Jurić Vukelić
(Corresponding author) PhD, Assistant Professor, Faculty of Croatian Studies, University of Zagreb, Borongajska cesta 83d, 10000 Zagreb, Croatia.
E-mail: djuric@hrstud.hr
Website: https://www.hrstud.unizg.hr/staff/dunja.juric_vukelic
ORCID: <https://orcid.org/0000-0003-2757-201X>

Lovorka Brajković PhD, Professor, Faculty of Croatian Studies, University of Zagreb, Borongajska cesta 83d, 10000 Zagreb, Croatia.
E-mail: lbajkov1@hrstud.hr
Website: <https://www.hrstud.unizg.hr/staff/lovorka.brajkovic>
ORCID: <https://orcid.org/0000-0003-1228-6459>



GENERAL EDUCATION COURSES INTEGRATED WITH CHARACTER DEVELOPMENT ACTIVITIES: EFFECTIVENESS ON THE CHARACTER DEVELOPMENT OF UNIVERSITY STUDENTS

Yu-Long Chao

National Formosa University, Taiwan
E-mail: chaoyulong@nfu.edu.tw

Abstract

With a conviction that general education should play a significant role in fostering the positive development of university students' character, several educators integrated various activities that could contribute to such development into general education courses in a technical university in Taiwan. This study surveyed the takers and non-takers of those courses and compared the differences in the scores of eight aspects of character development between the two groups of students. Results revealed that the implemented courses brought up small gains, particularly for male students in the second year, in most of the aspects including "logic and innovation," "social practices," "citizenship," "growth in learning," and "proactiveness and autonomy." Female students were found to score significantly higher than male counterparts in all of the aspects and the scores of most aspects exhibited a declining trend with the increasing university years. These results were discussed from the perspectives of the teaching strategies advantageous for character development as well as the mental difference between first-year and third- or fourth-year students.

Keywords: general education, character development, quasi-experiment, teaching strategies

Introduction

As a major channel through which a whole person educational ideal is realized, general education courses should wield pervasive and sustained influences on the character development of university students. Sternberg (2013) argued that the greatest contribution to character development may be made by these courses. Character development can be enhanced by participating in diverse educationally purposeful activities (Kuh & Umbach, 2004), viewing character development as an outcome of all the learning processes in a university (Cole, 2004) is of paramount importance in promoting positive development of character for undergraduate students. Successful cases, for instance, the institutions of Lamb et al. (2022) and Larson and Martin (2009), demonstrated that with inputs of efforts and employment of effective strategies educators were able to bring about growth in character development in university students.

Despite that general education programs in universities "must continue to be concerned about our students' character development" (Dahlin & Abbott, 1999, p. 207), the role of general education courses in enhancing the character development of university students seems not to receive sufficient attention in empirical studies. Yet, some studies contribute to the strategies (e.g., Lamb et al., 2022) and types of activities (e.g., Kuh & Umbach, 2004) that are beneficial for character cultivation in university students, being informative to the planning of teaching

and analysis of the outcomes for general education courses. Besides, a more fundamental issue that is rarely addressed in relevant studies is the influence of student demographic variables such as gender and university year in assessing the effectiveness of the interventions of character development. This deserves closer examination and might be implicative for fine-tuning the educational efforts of character development in universities.

General education does far more than instill general knowledge of the world into students; it inspires students to learn to be a complete individual as well as a responsible citizen through a variety of learning activities. The belief echoes what Kuh and Umbach (2004) emphasized that character cannot be taught in one course and its multiple dimensions are cultivated through various experiences. With an attempt to foster the positive development of student character in the implementation of a project subsidized by the Ministry of Education, eight full-time faculty of the Center for General Education at a technical university in Taiwan planned a variety of teaching activities in which the students who took their general education courses were engaged. These activities have been held in more than 30 courses in the past semesters and are themed around topics in a number of fields such as globalization, sustainability, law, philosophy, and arts, aiming to positively affect the character development of students. Examples include, to name a few, a professor of the course Introduction to Environmental Science guiding students to make compost and grow organic vegetables, a professor leading students to create and exhibit artworks sending messages for a better world in her course Creative Thinking and Design, and students in the course Philosophy and Life interviewing entrepreneurs about their life stories. The investment of budget and efforts in the teaching activities over these semesters entails a systematic analysis on the outcomes of these general education courses integrated with character development. In specific, the analysis of this study aimed to answer the following questions:

1. Were there significant differences in the scores of character development between the students who did not take the general education courses integrated with character development and those who used to take such courses? (Did the takers of these courses score significantly higher in character development than the non-takers of these courses?)
2. On what aspects of character development did the general education courses integrate with character development have effects? (In what aspect did the takers of these courses score significantly higher than the non-takers of these courses?)
3. Were there significant gender and university year differences in the score of each aspect of character development?

Research Methodology

Research Design

This study adopted one of the categories of quasi-experimental designs in which an experimental group and a control group were included but no pre-test due to the impracticability of maintaining the same classes of students participating in both pre-test and post-test over a considerable period longer than a semester for character to develop. In the semesters before the online survey, eight professors of the Center for General Education, an institute in charge of offering and teaching undergraduate general education courses at the university of this study, had planned and integrated different forms of activities that could contribute to the character development of students into the general education courses they taught. There were totally 470 students who used to take those courses and they were categorized into the experimental group. Whereas the classes of students of the courses taught by other teachers, 413 students in total, were categorized into the control group since these courses were not integrated with those character development activities. This group of students were non-takers of the courses integrated with character development.

Participants

At the end of the spring semester in 2022, a convenience sample with a total of 883 students (470 in the experimental group and 413 in the control group) participated in an online survey to be tested with a character development scale. Due to the gender composition of the university under study, most of them (78.8%) were males. By university years, 142 (16.1%) were first-year, 416 (47.1%) second-year, 242 (27.4%) third-year, and 76 (8.6%) fourth-year students (with seven unknown). No personally identifiable information was collected in the online survey to ensure anonymity and the students were told that they were free to join the survey which was irrelevant to their grades.

Instrument

Five educational experts experienced in character development research were consulted to devise a scale of character development, to some extent ensuring some content validity of the scale. With an estimate of internal consistency reliability (Cronbach's α) of .852, suggesting that the scale was reliable, its content was polished considering the opinions of participant professors about its comprehensibility to their students. The finalized scale consists of eight aspects: friendliness and empathy, logic and innovation, teamwork, social practice, citizenship, growth in learning, proactiveness and autonomy, and art and cultural content, each with six questions in a dichotomous format, summing to 48 questions. One of the questions as an example in each aspect is as follows.

1. Friendliness and empathy:

When I see a friend in a bad mood,

A. I don't know what to do and how to talk to him or her.

B. I will accompany him or her and wait in patience until he or she is willing to tell me what happened.

2. Logic and innovation:

When I confront a similar task as before,

A. I don't like too many new ideas. Why should I change methods when old ones are available?

B. I will try new methods to get the task done better than last time.

3. Teamwork:

When I and a group of people work on a task together,

A. I believe teamwork can result in better outcomes than working alone.

B. I argue that a person who is really something can do a great job without working with others at all.

4. Social practice:

After I graduate from university,

A. I hope the job I find enables me to convert knowledge learned into actions that serve society and people.

B. I can't apply knowledge learned to society to help others.

5. Citizenship:

With respect to the interactions between a university and communities,

A. I like joining community service courses and believe I can be the bridge of communication between the university and communities.

B. I don't like the service courses combining the university and communities. Why

should I do the job that the university and communities should do?

6. Growth in learning:

Facing the unlimited knowledge and information,

A. I have a casual reading habit. I read whatever I think of and whatever I have at hand.

B. I like to learn by plan and with directions. I can fulfill the learning goal more easily this way.

7. Proactiveness and autonomy:

My view about opportunities is that

A. I rather wait and see than make an effort that does not necessarily bring good results.

B. I don't just wait for the opportunities to come.

8. Art and cultural content:

As far as art and cultural activities are concerned,

A. there are many opportunities for these activities as long as I want to join.

B. I am not very interested in and not willing to join these activities.

Data Collection and Analysis

The data were collected via Google online form, which consisted of the character development scale and a few demographic items. The participant professors provided the web address of the online form to students in class. Numerical data collected online includes:

1. The mean scores of questions in each aspect of character development. For instance, a student selects the answer which has a tendency to being more friendly and empathetic than the other answer for four out of the six questions in the aspect of friendliness and empathy; his or her mean score of that aspect is $4/6 = 0.67$. As such, the highest mean score of each aspect is $6/6 = 1.00$.
2. The sum of mean scores of all the eight aspects of character development (highest 8.00).
3. University years (first-year 1.00 to fourth-year 4.00).
4. The number of courses integrated with character development taken by a student (lowest 0.00).

With the analysis of variance (ANOVA), commonly used in comparing the means of three or more groups, the differences between students of the four university years in the scores of an aspect of character development were detected. When the F statistics in ANOVA reach a significant level, indicating that there are significant differences among these groups, post-hoc comparisons can present in which pair(s) of the groups the difference in means significantly exists. In addition, the differences in the means of character development (by aspects) between takers and non-takers of the general education courses integrated with character development as well as between females and males are analysed with independent sample t -tests, which are suitable for comparing the means of two groups.

Research Results

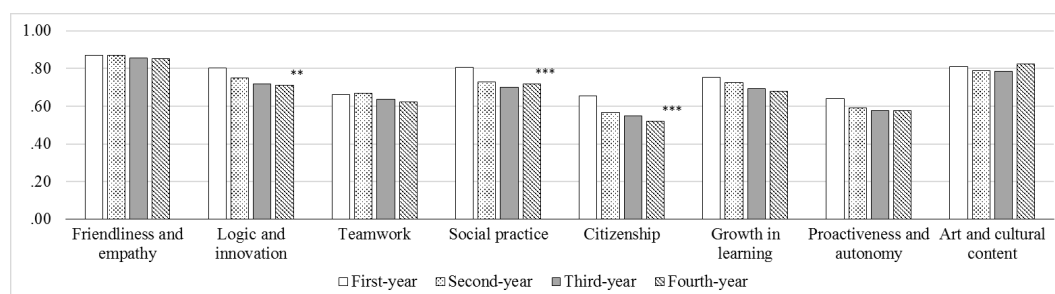
The Scores of the Aspects of Character Development by University Years

As Figure 1 presents, “friendliness and empathy” and “art and cultural content” are the aspects with relatively high scores while “teamwork,” “citizenship,” and “proactiveness and autonomy” are the aspects with lower scores. The trend that the scores decrease with increasing university year is obvious. In the results of ANOVA, “logic and innovation” ($F = 5.30$, $p =$

.001), “social practice” ($F = 6.62, p = .000$), and “citizenship” ($F = 6.07, p < .001$) were the aspects with the university year differences reaching the statistically significant level and post-hoc comparisons further indicated that these differences significantly existed between first-year students and those of other years. The asterisks in Figure 1 denote the levels of significance (** $p < .01$, *** $p < .001$) for these aspects.

Figure 1

The Scores of the Aspects of Character Development by University Years



The Differences between Takers and Non-Takers of General Education Courses Integrated with Character Development in the Scores of Character Development

Results of the *t*-test reveal that there is no significant difference in the total scores of all aspects of character development between the two groups, the students who did not take (5.68) and those who used to take (5.67) the general courses integrated with character development (Table 1). Further analyses based on respective university years suggest that the significant differences in mean scores between the two groups are most pronounced in second-year students (Table 1). As indicated by the shaded cells in the rows titled “N-T difference” in Table 1, these significant differences emerge in the aspects including “logic and innovation” (0.73 vs. 0.77), “social practice” (0.70 vs. 0.76), “citizenship” (0.54 vs. 0.60), “growth in learning” (0.70 vs. 0.75), and “proactiveness and autonomy” (0.55 vs. 0.64), with the scores of course takers consistently higher than the scores of non-takers.

Table 1

The Scores of Aspects of Character Development

Aspects of character development		All four years				Second-year			
		All students	Males (M)	Females (F)	M-F difference	All students	Males (M)	Females (F)	M-F difference
Total scores of all eight aspects	Non-takers (N)	5.68	5.64	5.83	-0.19	5.52	5.41	5.80	-0.39*
	Takers (T)	5.67	5.57	6.09	-0.52***	5.89	5.81	6.15	-0.34
	N-T difference	0.01	0.07	-0.26	-	-0.36**	-0.40**	-0.35	-

Friend- liness and empathy	Non- takers (N)	0.87	0.85	0.91	-0.05**	0.87	0.84	0.92	-0.07**
	Takers (T)	0.86	0.85	0.92	-0.07**	0.87	0.86	0.93	-0.08*
	N-T difference	0.00	0.00	-0.01	-	-0.01	-0.01	-0.02	-
Logic and innova- tion	Non- takers (N)	0.75	0.75	0.75	0.01	0.73	0.72	0.74	-0.01
	Takers (T)	0.74	0.73	0.78	-0.05	0.77	0.77	0.79	-0.02
	N-T difference	0.01	0.02	-0.03	-	-0.05*	-0.05	-0.06	-
Team- work	Non- takers (N)	0.66	0.66	0.66	0.00	0.66	0.66	0.66	-0.01
	Takers (T)	0.65	0.65	0.67	-0.02	0.68	0.67	0.70	-0.03
	N-T difference	0.00	0.01	-0.02	-	-0.02	-0.01	-0.04	-
Social practice	Non- takers (N)	0.74	0.74	0.74	-0.01	0.70	0.70	0.72	-0.02
	Takers (T)	0.72	0.71	0.77	-0.06*	0.76	0.75	0.77	-0.02
	N-T difference	0.01	0.02	-0.03	-	-0.05*	-0.05*	-0.05	-
Citizen- ship	Non- takers (N)	0.57	0.56	0.60	-0.04	0.54	0.51	0.61	-0.10*
	Takers (T)	0.57	0.55	0.65	-0.10**	0.60	0.59	0.65	-0.07
	N-T difference	0.00	0.01	-0.04	-	-0.07*	-0.08*	-0.05	-
Growth in learn- ing	Non- takers (N)	0.72	0.71	0.75	-0.04	0.70	0.69	0.74	-0.05
	Takers (T)	0.72	0.71	0.77	-0.06*	0.75	0.75	0.76	-0.01
	N-T difference	0.00	0.00	-0.01	-	-0.05*	-0.06*	-0.03	-
Proac- tiveness and autono- my	Non- takers (N)	0.58	0.59	0.56	.03	0.55	0.55	0.56	0.00
	Takers (T)	0.60	0.60	0.64	-.04	0.64	0.64	0.62	0.02
	N-T difference	-0.02	0.00	-0.08	-	-0.08*	-0.09**	-0.07	-
Art and cultural content	Non- takers (N)	0.79	0.77	0.86	-0.09**	0.77	0.74	0.86	-0.13**
	Takers (T)	0.80	0.77	0.91	-0.14***	0.81	0.78	0.91	-0.13**
	N-T difference	-0.01	0.00	-0.05	-	-0.03	-0.04	-0.04	-

Gender Differences in Character Development

With all the students as the sample, the results of *t*-tests for the differences between males and females are presented in the column “M-F difference” in Table 1. Females scored

higher than males in all the aspects with significant gender differences regardless of whether they had taken the general education courses integrated with character development. For non-takers of the courses, significant gender difference appears in “friendliness and empathy” and “art and cultural content.” For takers of the courses, gender difference wide spreads in most of the aspects except “logic and innovation,” “teamwork,” and “proactiveness and autonomy,” resulting in a significant difference in the total score of all aspects.

With respect to second-year students, again, the scores of females are higher than those of males in all aspects with significant gender differences. For non-takers, total scores of all aspects (males 5.41; females 5.80) and three individual aspects, “friendliness and empathy,” “citizenship,” and “art and cultural content” present significant gender difference. For takers of the courses, gender difference exists only in “friendliness and empathy” and “art and cultural content.” Whether for all students in general or second-year students in specific, takers or non-takers, “teamwork” and “proactiveness and autonomy” show no significant gender difference while “art and cultural content” consistently exhibits such a difference.

Discussion

The Scores of Character Development Decrease with Increasing University Year

The results based on students of all four years demonstrate a first-to-fourth-year decline in almost all aspects of character development particularly remarkable in “social practice,” “citizenship,” and “logic and innovation.” “Citizenship” as the aspect with the lowest score for students of almost every year is notable because it coincides with the findings of a local study also investigating the character development of technical university students (Wu & Ke, 2016). The supposedly decreased social practice and citizenship of third- or fourth-year students contradicts the findings and arguments of some significant studies in student development. For instance, students were found to have more community and civic involvement (Astin, 1993; Pascarella & Terenzini, 2005, 1991; Sax, 2004) or no significant change in community contribution over the years in college (Sheldon, 2005).

The lower scores of these aspects of character development of fourth-year students than those of first-year students observed in our university might involve the mental difference between the cohorts of first-year and fourth-year students. First-year students could be concluded to be a cohort of students characterized by hope, positivity, and ideal according to studies. Chen (2011) found first-year students scored significantly higher than fourth-year students in the item of hope. They might pursue high educational goals which were more idealistic than realistic (Quilter, 1995) or tended to agree with the emphasis the universities put on educational goals, expected highly for these goals (Chang, 1999) and had high learning motivation in contrast to fourth-year students (Brouse et al., 2010). As such, the first-year students in the present study, who just entered the universities and began their new life, were presumed to give idealistic responses to the questions of most aspects of character development. The fourth-year and/or third-year students, however, were seemingly more realistic, self-centred, or cynical as conjectured. In Wu et al. (2011) study, fourth-year students perceived the least psychological and social wellness probably due to the anxiety in the last stage of college life. As they were about to leave, they could be less involved in their universities and more independent (Feldman & Newcomb, 1994), putting more emphasis on the reality of society and themselves. Intriguing findings revealed that in a business school, the fourth-year students held more reservations than first-year students to the importance of good business ethics (Luthar et al., 1997) and the fourth-year students of a general university felt more entitled to negotiate grades than first-year students did (Ciani et al., 2008). The chariness of the cohort of older undergraduates in our university to endorse the statements favouring social practices, and citizenship might be linked

to the latent self-centeredness in them.

The lack of innovation of fourth-year students, relative to first-year students, was in line with the results of several studies, with fewer studies reporting opposite results though (e.g., Kershaw et al., 2014). The supporting studies show that among engineering students, the same field of major as the majority of students of the present study, fourth-year students were less creative than first-year students (e.g., Genco et al., 2012; Kershaw et al., 2015; Sola et al., 2017; Surovek & Rassati, 2017), so is the non-engineering case of McIntyre et al. (2003). It is argued that after the third year increased education might cause lower creativity (Simonton, 1983). Surovek and Rassati (2017) posited that the accumulated knowledge of fourth-year students could instead constrain creative thoughts and a conservative culture to avoid failure also refrained them from creative options. These arguments informed us of the plausible accounts quite applicable to the situation of our case in which it was conjectured that many third-year and fourth-year students turned to see things in a way they felt safe and familiar with as they grew after their idealistic, naïve first and second years.

Gender Differences in the Aspects of Character Development

Similar to the results of Astin and Antonio's (2000) study that fourth-year female students scored higher than their male counterparts on all the measures of character development, females in the present study had higher mean scores in all aspects of character development than males. As non-takers of the general education courses integrated with character development were not affected by the teaching activities of those courses, the gender differences in certain aspects of character development of these students probably represent inherent differences between female and male undergraduate students. "Empathy and friendliness," "art and cultural content," and particularly in second-year students "citizenship" were the aspects in which females significantly outperformed males. Previous studies did provide consistent findings. Regardless of age, women were more empathetic than men (e.g., Eisenberg & Lennon, 1983; Hoffman, 1977; McCue & Gopoian, 2000; Mestre et al., 2009; Schieman & Van Gundy, 2000; Wu & Ke, 2016), showed more interest and appreciation in art and culture (e.g., Afhami & Mohammadi-Zarghan, 2018; Kaufman & Gabler, 2004; Lunneborg & Lunneborg, 1985), and were more willing to participate in civic engagement activities and community services (Astin & Antonio, 2000; Marcelo et al., 2007; Metzger & Smetana, 2009). On the other hand, these female-male gaps could be bridged as a result of the implementation of the general education courses integrated with character development.

The Effects of the General Education Courses Integrated with Character Development

As regards that the differences between takers and non-takers of the general education courses integrated with character development, indicating the potential effect of the courses, were manifested among second-year students rather than all students of four university years, it could be due to the considerable number of third- or fourth-year students, who were presumably more realistic and less motivated to learn than first-year and second-year students as previously argued, and hence less susceptible to the effect of the courses, averaging out the effect in a larger, age-diverse sample. Nonetheless, the effect of the courses on second-year students was quite comprehensive in terms of the number of aspects of character development that were positively affected. By and large, the effect was modest since the score differences were small but significant.

As a number of courses in different disciplinary fields that were integrated with character development varied in teaching strategies, but the statistical analysis was done at a level of all students instead of a level of courses, it was infeasible to attribute the growth in character

development to which pedagogies of which courses. Rather, the merit of those courses was discussed globally and conceptually with the teaching principles that were demonstrated to be conducive to desired character development. Other than just sitting in classes the students were engaged in a variety of learning activities, some of which were hands-on, or out-of-classroom, and all of which provided them with opportunities to experience, their views about what learning is were therefore widened more, as the teachers believed. The sense of achievement they felt when they completed the works or projects should be one of the factors making them favour the positive statements in the aspect of "growth in learning." It was also likely that they became more proactive as a result of the raised learning interest and more autonomy allowed by more flexible grading of those courses, providing a tentative account for their higher score in the aspect of "proactiveness and autonomy."

Kuh and Umbach (2004) summarized several activities beneficial for character development of college students and community services are one of them. Some of the general education courses integrated with character development had community-based activities such as helping farmers grow crops in local rural communities and working with the community elders on making handicrafts. The experiences in these activities might have positive influences on the aspects of "citizenship" and "social practices" as well, according to Vogelgesang and Astin's (2000) finding that service learning integrated with courses significantly promoted the sense of civic responsibility of college students. Along with the activities of other general education courses integrating character development, the students enrolled in these courses met different people, who were invited to the classrooms or worked in the places they visited, and probably found alternative perspectives different from how they used to see the people and issues. It was argued that the plurality in terms of themes, people, and venues present in these courses to some extent contributed to the higher scores of the students in the aspect of "logic and innovation" than non-takers of these courses.

It was noteworthy that the effects of the general education courses integrated with character development were mostly reflected by male second-year students. In light of the originally better performance of females than males in many aspects of character development as discussed above, for females there should be limited room for improvement resulting from the implemented courses. By contrast, the performance in a certain aspect of character development of male students could be increased by a discernible magnitude, catching up with the level of their female classmates in the implemented courses. This is evident for the aspect "total scores of all eight aspects" and the aspect "citizenship" of second-year students, both of which show the improving effect of those courses (i.e., the shaded cells in "N-T difference" rows in Table 1) on male students and the significant gender differences (i.e., the bolded numbers under "M-F difference" column in Table 1) present in non-takers of the implemented courses disappearing in takers of those courses.

Conclusions and Recommendations

In the present study, a team of participant professors integrated character development into many general education courses in several fields ranging from philosophy, law, art, to natural science and observed the small gains in a number of aspects of character development in the undergraduate students in a technical university in Taiwan. Compared with the students who did not take these courses, those who took these courses expressed more positive thoughts in the aspects such as "logic and innovation," "social practice," "citizenship," "growth in learning," and "proactiveness and autonomy" among all eight aspects. This was particularly the case for second-year students, associating a nonconventional finding that third- or fourth-year students had lower scores in many aspects of character development than the first-year and second-year students.

It is concluded that our activities featuring community services, hands-on practices, and flexible grading might be advantageous for some aspects of character development though attention should be drawn to the un-affected aspects, “friendliness and empathy,” “teamwork,” and “art and cultural content” as well as female students, which may require special approaches to (further) improvement. Still, future studies with careful research design are needed to provide empirical support for the effectiveness of each teaching strategy to enhance certain aspects of character development. It is also one limitation of this study. Another limitation is the use of cross-sectional rather than longitudinal data in the analysis of the character development differences between students in different university years. These differences are better explained from a cohort perspective in this study.

The findings of this study offer two practical implications. First, pedagogically teachers must take into account the fundamental differences between first-year students and third- or fourth-year students with respect to the mindset for learning. They need thoughtful tactics to empower third- or fourth-year students to be engaged in the learning activities related to character development. Second, teachers are encouraged to have a broader frame of what general education courses are about and make the best use of the advantages of these courses in cultivating students’ character. It is essential to guide the teaching of these courses with a central thought of making students good persons, not just knowledgeable persons. General education courses have more flexibility than department courses for teachers to do so.

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FACILITATING SUSTAINABLE DEVELOPMENT OF PRESCHOOLS: A SYSTEM THINKING TRAINING PROJECT IN TAIWAN

Ching-Ching Cheng, Kuo-Hung Huang

National Chiayi University, Taiwan

E-mail: chingching_cheng@mail.ncyu.edu.tw, kuohung@mail.ncyu.edu.tw

Yi-Kai Lin

National Taitung University, Taiwan

E-mail: yklin3510@nttu.edu.tw

Abstract

This study aims to assist preschools in achieving sustainable development by providing system thinking training for teachers and administrators. By promoting system thinking and PDCA, training helps preschool staff and teachers construct their knowledge and culture for organizational growth and effective operation. The research procedure encompasses stages of preparation, knowledge diffusion, knowledge adaptation, and establishing support networks. A total of 744 training participants engage in case studies, discussions, and self-evaluation activities to enhance their understanding and application of the PDCA framework. Quantitative and qualitative methods are used to collect the research participants' perceptions and intentions on this training. Research data is collected using 5-point Likert questionnaires, supplemented with open-ended questions to gather participants' perceptions and suggestions. In addition, qualitative data is obtained through onsite observation, focus groups, and individual interviews. The research results indicate that participants in the training program positively perceive the training activities. Also, those with administrative roles and from non-profit preschools exhibit higher interest and motivation for training, reflecting the need for sustainability knowledge in changing environments.

Keywords: sustainable development, system thinking, PDCA, preschool teacher, early childhood education

Introduction

With the increasing concern about education quality, many countries initiated educational reforms to improve teachers' professional skills and administrative efficiency. Early Childhood Education and Care institutions face numerous challenges in the context of rapid change. In addition to external changes such as government policy and the education market, internal issues, including teachers' teaching capacity, values, attitudes, and learning goals, are crucial to educational practice (Omdal, 2018). Like preschools in other countries, Taiwan preschools are also facing rapid changes in institutional and social situations. Among the changes that have taken place in recent years, the first is the integration of kindergartens and care centres into preschools in 2002. The government has invested many resources in personnel training to integrate personnel's duties and qualifications from the education and social welfare systems. Second, the public's concern about the accessibility and quality of early childhood education.

Because of the increasing number of dual-income households and parents' awareness of the importance of early childhood education for children's development, the needs and concerns regarding the quantity and quality of public preschools and non-profit preschools have become an important issue.

The Taiwan Government has actively promoted various policies to enhance preschool quality based on the above factors. For example, workshops and onsite mentoring are provided to assist teachers' professional development. Also, training to lead preschools to enhance their administration quality actively supports the improvement of preschools' management quality. Furthermore, preschools are granted to employ university professors or practical experts to help preschools enhance education quality. Nevertheless, this improvement seems short-term effective. Although preschools' quality has progressed during the counselling program, preschool operation quality often returns to its original point once the program is completed. The success of the abovementioned promotion relies on the long-lasting effects of quality promotion. After various training activities, the problem remains as if teachers understand the relevant content, are willing to apply what they have learned in their jobs, systematically observe the application results, and continuously improve themselves. Thus, it is important to implement training facilitating preschools to establish a self-improvement system after the onsite mentoring program and operate effectively without external assistance. The crucial factor for preschools and their employees to continue self-improvement is related to system thinking. However, system thinking courses are missing in pre-service teacher education. With a considerable professional capacity level after college-level teacher education and rigorous certificate examination, preschool teachers in Taiwan commonly lack system thinking skills. Therefore, it highlights the importance of system thinking in the on-the-job education of preschool teachers and staff. Under this contextual background, this study launches these nationwide programs with support from the government.

Research Focus

A traditional approach based on the one-shot best strategy for planning could no longer be valid in a complex and uncertain environment. Strategic planning and management have to be a permanent and dynamic process. As such, it must be a form of collective organizational learning, a process of individual and collective inquiry that modifies or constructs organizational theories in use (Argyris & Schon, 1996). Learning organization, based on system thinking, helps to enhance organizations' practices and to prosper in a dynamic and competitive environment. System thinking, characterized as a fifth discipline, evaluates management as a whole that adapts continually as it cooperates with individuals within its structure (Senge, 2006).

The Ministry of Education has initiated a preschool's systematic operation plan to create long-term effects on sustainable development. By promoting preschools' systematic operation with a learning orientation, this program assists preschool teachers in learning system thinking concepts. It later leads to organizational learning toward the sustainable development of preschools. System thinking, which was characterized as a PDCA (Plan, Do, Check, Act) framework initially developed by the quality control movement, was featured as an effective learning method during the strategic management process (Argyris & Schon, 1978). Thus, the main research focus is how to tailor training programs targeting different roles and needs in promoting system thinking.

Research Aim

In this study, the in-service teacher training with system thinking and PDCA as the content introduced to the preschool teachers and administrators is conducted nationwide under

the government's support. More importantly, besides delivering the PDCA concept, promoting system thinking as the daily routine during school activities is crucial to achieving sustainable preschool development. To accomplish the outcome, the researchers design and implement teacher training stages to explore the success factors of fostering sustainable development at these schools after training.

Theoretical Foundation

System Thinking and Quality Improvement

As a means of seeing the system as an integrated, complex composition of many interconnected components, system thinking is currently used to deal effectively with various assignments and challenges in various areas (Senge, 2006; Shaked & Schechter, 2017). The system-thinking approach advocates viewing the issue as a whole and emphasizing the interrelationships among its components rather than the components themselves. System thinking examines systems holistically and focuses on how the system's constituent parts act together in network interactions for the whole to function successfully. Likewise, the systemic approach in education quality management by Lamanauskas (2023) emphasizes knowing about many interrelationships between the system components and even the relationships between the system and the environment. By implementing long-term, methodical, and systematic work for constant improvement, the educational institution can coordinate occurring quality management questions through inner efforts (Lamanauskas, 2009).

Schools that function as learning organizations have systems and structures that enable staff at all levels to collaboratively and continuously learn and put new learnings to use. This capacity for collaborative learning defines the process of organizational learning in schools (Silins et al., 2002). The practical framework for strategic organizational learning could be the PDCA cycle, commonly used as a problem-solving model in the context of quality management (Argyris & Schon, 1978; Argyris & Schon, 1996). According to this framework, quality improvement will be effective if improvements start with a good plan (P), activities necessary to achieve the plan are implemented (D), results are checked (C) to understand the causes of the results, and actions (A) are taken to improve the processes (Dahlgaard et al., 1995). The PDCA cycle assures and improves quality in education in order for teachers to constantly monitor and adjust the plan toward achieving their goals. Therefore, preschool teachers gaining management skills can develop themselves and execute their tasks to appropriately meet the demands of society (Brandt & Elkjaer, 2011; Moen & Norman, 2010).

The Levels of Organizational Learning

Organizational learning means that members grow through interaction between individuals and members of the organization and achieve the common learning goals of the organization. Therefore, learning diffuses from the individual to the group and eventually to the whole organization. Some scholars make a more detailed distinction between the levels in terms of "learning ability change," for example, the single-loop, double-loop, and three-loop learning, as suggested by Swieringa and Wierdsma (1992); similarly, Argyris and Schon (1996) identify three levels of learning which may be present in the organization. The first level is single-loop learning, which consists of one feedback loop when the strategy is modified in response to an unexpected result. Learners connect actions with outcomes under the established organizational objectives, policies, and norms. The main learning focus is to examine the environment in which mistakes occur, thus enhancing internal resilience by linking the happenings to the standards.

In short, the organization members adjust the means and strategies to enhance organizational effectiveness, rarely causing radical change. The second level is double-loop learning, in which the values, strategies, and assumptions that govern action are changed to create a more efficient environment. With the revision of the organization's goals, policies, and norms, learners try to identify the cause of the problem and find possible concrete actions. The third level is deutero learning, which is "learning how to learn." Members of this level learn from past experiences of failure and find ways to improve the learning system itself. In other words, the organization's members have learned the self-learning cycle.

Communities of Practices and Teacher Professional Development

Senge(2006) states that learning organizations learn by means of learning individuals, but individual learning does not guarantee the organization's learning, and organizational learning does not occur without individual learning. Therefore, a learning community for education facilitates teachers to engage in organizational learning. Through participating in education community activities, novice teachers will develop teaching practices during their engagement. The engagement of systematic collaborative discourse, reflection, and inquiry improves professional development and practice and contributes to teacher professional development. Collaborative crafting is positively related to performance, particularly for less experienced teachers (Leana et al., 2009; Nolan et al., 2013).

A community of practice generally can be defined as a group of professionals and other stakeholders pursuing a shared learning enterprise commonly focusing on a particular topic (Lave, 1993). Claiming the learning process is a form of participation in society, Lave and Wenger (1991) asserted that learners enter a community at the periphery and move closer to full, legitimate participation as they gain knowledge and understanding of the community's customs and rituals. The applications of the community of practice framework on teacher education can be examined across critical dimensions such as diverse membership, goals, and participatory framework. Furthermore, the community should provide opportunities for regular reflection and dialogue about those field-based experiences with people of varying levels of expertise.

Bell and Gilbert (1996) claimed that teachers will undergo social, personal, and professional development within a teacher-development program that includes support, feedback, and reflection. The community of practice establishes a learning community across levels of expertise rather than within them and provides the learners with collaborative inquiry models. It offers tremendous promise in achieving diverse expertise and impacting the field because this approach recognizes the many concerns related to belief, cultures, tacit knowledge, identity, and power that do not fall neatly into disciplines. Moreover, the experienced teachers share case studies and discuss the potential advantages and barriers to their environment to encourage colleagues to critically examine and refine past and current practice, taking into careful consideration the personal, pedagogical, societal, and ethical contexts associated with schools, classrooms and the multiple roles of teachers (Han, 1995; Knowles et al., 1994).

Teacher Professional Development Program Design Trends

In recent years, the focus of teacher professional development has changed from informational to transformational learning. Rather than passive information recipients, teachers change their roles as active participants during training activities. Besides, the evaluation of learning results shifts from the comprehension of information from lecturers to the transformation of thinking. More specifically, in the relevant curriculum for professional development, preschool teachers are guided to change their way of thinking (Clarke & Hollingsworth, 2002).

Therefore, teacher training must be sophisticatedly planned and promoted beyond merely informational training.

How to design training facilitating transformational learning? According to an analysis of theories by Rohlwing and Spelman (2014), four recurring themes spiral through the various theorists: experience, reflection, dialogue, and context. In the design of the training program, individual teacher's work experience should be considered. The training activities provide opportunities for reflection and dialogue to increase teachers' professional development. Lastly, the knowledge to learn is connected to the educational field, and the urgency felt by learners will become the starting point to motivate learning (Reeves, 2009).

To assist the preschools in achieving sustainable development, the training aims to help preschool staff and teachers construct their own knowledge and culture for organizational growth and effective operation to achieve the program objectives by promoting system thinking. Based on the framework mentioned above, three kinds of training programs were planned as follows:

1. Training Lectures. The training lectures are to introduce the basic concept of PDCA and then lead the participants to understand how to adopt in their schools by case studies and discussion.

2. Workshops. In the workshops, more hand-on practices are emphasized. According to the goal of each school, the workshop lecturers lead participants to implement their plan to improve school quality or solve existing problems by adopting PDCA model. Also, the participants will check and discuss the plans of the other participants to offer suggestions for improvement.

3. Professional Communities. The professional communities aim to execute their plan and self-evaluate the progress with an assessment tool for education quality. Similar to the APECP (The Assessment Profile for Early Childhood Programs), the assessment used to be composed of six dimensions including administration leadership, resource management, family and community, safety and health, evaluation and counselling, as well as curriculum for education and care. At each meeting, participants present their plan and self-evaluation, the lecturers and peers' feedback and discuss alternative solutions.

Research Methodology

Research Procedure and Participants

The research participants included researchers, training mentors, and training participants. The research team consisted of three professors and three full-time research assistants. Professors of early childhood education and senior preschool teachers with administration experience were invited to serve as training mentors. Among the 46 experts agreed to contribute their expertise, 15 served as the lecturers. For training participants, preschool teachers first registered the preferred training sessions, and then the research team selected the participants. In total, 744 participants attended at least one of these training courses. The research procedure and participants at each stage are described as follows.

Stage 1: Preparation. This study started in January 2017 and ended in December 2018. Preparation work, including training design, mentors meeting, and administrative work, was conducted during the first ten months. After the first training session which started in October 2017, training mentors periodically met to adjust their lectures or mentoring according to feedback from the research team. The research and development process included the following steps: First, Documentary analysis: Taiwan had begun to develop guidelines for the system operation of preschool shortly before this project started. In order to implement the training scheme accordingly, the research team first analysed the existing data and revised the contents

to match the guidelines. Second, Expert consultation: Four expert consultation meetings were held, with a total of 46 experts invited to participate in the consultation to provide advice on training design. Third, Instructor training: 12 university professors and three preschool directors were invited to serve as lecturers. One lecturer training and three retraining sessions were held for 15 lecturers to maintain the consistence and quality of the training content delivered. Finally, Continuous revision: The content was constantly revised and adjusted in response to the feedback from lecturers and participants.

Stage 2: Knowledge Diffusion. At this stage, training was conducted in the form of training lectures. From October 2017 to December 2018, 15 training lectures were held at different cities distributed all over Taiwan. The one-day training lectures comprised six-hour lectures. Based on the 568 valid questionnaires, 234 (41%) were teachers with administrative duties, 314 (56%) were teachers, and 15(3%) were non-teachers. The activities included PDCA concept explanation, discussion on PDCA's application in teaching, and guiding participants to view and improve their teaching in established school norms systematically. Personal learning and single-loop learning were conducted. Participants were encouraged to express their concerns and expectations on adopting PDCA. Also, the feasibility and difficulties at different schools were discussed and shared. The participants reflected on the positive and negative impacts of carrying out this model.

Stage 3: Knowledge Adaptation. At this stage, training was conducted in the form of workshops. From January to August 2018, seven workshops were held in northern, central, southern, and eastern areas in Taiwan. Each workshop consisted of two-day activities, including lectures, case studies, brainstorming, and discussion. The main content included applying PDCA on the preschool operation, using the self-checking tool, and case analysis. The activities mainly focused on problem identification and solution discussion regarding the authentic situation. In the 12-hour workshop, the lecturers, who were previously trained and certified to lead the activities, spent much time explaining and practicing system thinking skills to solve preschool problems. Among 71 workshop participants, 45 (54%) were teachers with administrative duties, 23(32%) were teachers, and 3(4%) were non-teachers. There were approximately 8-19 participants in each workshop, with at least two participants from the same school engaging in the discussion of the systemic operational issues presented in the case, the participants reviewing the problems encountered by their school operations, jointly proposing solutions, and re-examining the rationality of the established norms of preschools.

Stage 4: Support Network. At this stage, professional communities were established to form support networks. Three professional communities were formed in the northern, central, and southern areas. The community members were selected either by invitation or by application. The number of members of each community was around 10 or 11. In total, 33 participants from 16 preschools participated in community activities. Among them, 21(66%) were teachers with administrative duties, and 11(34%) were teachers. From May to November 2018, each community held seven monthly meetings lasting for 3 hours. The meeting's goal was to design a three-year plan to improve the preschool quality for each participant. Led by an experienced training mentor, community members shared their school status and vision and discussed problems and solutions.

Additionally, an evaluation form on preschool curriculum and instruction quality was adopted as a tool to self-evaluate the community member's plan. The main content included applying PDCA on the six dimensions of preschool operation, using the preschool's self-checking tool, and discussing the improvement and setting the preschool future development plan. The activities mainly focused on action. After each community activity, the members brought the learned content and the discussion results back to the preschool to discuss and work together with all the members and then brought the results back to the community for discussion and examining the school's systematic functioning. At each meeting, participants

needed to make the corresponding improvement strategy, helped their colleagues change their thinking, reviewed the school objectives and the rationality of the existing norms, and finally, constructed a plan and corresponding systematization of the operation mechanism for the next school year. In addition to double loop learning and deuteron learning, learners tended to diffuse group learning to the organization.

Data Collection and Analysis

In this study, 5-point Likert questionnaires, as Table 1 indicated, were used to collect the research participants' perception and intention on these trainings. In addition, two open questions were appended at the end of the questionnaire to collect training participants' opinions on what they have gained during the training and suggestions to improve the practice. To contextually understand the interaction, onsite observation, focus group, and individual interview were used to collect qualitative data and later transcribed to ensure that all content was accurately captured. A grounded theory approach as described by Strauss and Corbin (1990) and a constant comparative method (Glaser & Strauss, 1967) were utilized to discover relevant categories and the relationships. Three of the researchers on the team completed the bottom layers of analysis, and then continued to develop categories with the rest of the research team.

Research Results

Training Participants Show Positive Perception

After the training by lectures, the analysis of questionnaires indicates positive feedback from participants. The overall score is 4.48 on the 5.0 scale. Besides, many participants answer the open questions with positive feedback, including "have a basic idea regarding PDCA," "expect to share with my colleagues," "anticipate to adopt PDCA at my school," and "lecturers did a good job."

For the training by workshops, the score on satisfaction is 4.7. Also, the participants' feedback confirms the higher level of learning. Through sharing and reflecting on the existing working methods in preschools, participants admit a better understanding of the PDCA approach. Furthermore, they appreciate the cooperative learning among colleagues by commenting, "the cycle of PDCA is clearly understood after practice," "increase my confidence in practices," and "discuss with my partners to change the way we think, and to rethink the way schools work right now."

For the training by professional communities, the score on satisfaction is 4.67. By engaging in the community's experience and practical tasks, training participants need to bring back to their own preschools to discuss with colleagues, thus initiating the organization's members' joint participation. The feedback from participants of the professional communities confirms the importance of the PDCA approach through comments such as "PDCA concept should be included in the training for preschool supervisors" and "this project should be added to the national mentoring program in the future." Also, evidence indicates that preschool colleagues can jointly examine the rationality of the workplace's existing plans and are willing to formulate new strategies.

Administrative Participants Show Higher Positive Attitude

A significant difference in reaction toward PDCA exists for training lectures. Among the 568 valid questionnaires from participants of training lectures, 231 are teachers with administrative duties, and 325 are teachers without administrative responsibilities. As Table

1 indicates, administrative training participants showed significantly higher scores than non-administrative on believing PDCA would improve curriculum and administration quality and be willing to apply to their work (question no. 3, 4, and 5). Accordingly, the training participants with administrative duties are eager to attend the advanced training because of believing in the usefulness of PDCA (question no. 6).

Table 1
Perceptions of Lecture Training between Administrative and Non-Administrative

Question	Job type	N	AVG	SD	t	p	
1. The lecturers expressed clearly							
Administrative		231	4.61	.563	1.456	.145	-
Non-administrative		325	4.54	.579			
2. This workshop helped to understand the content							
Administrative		231	4.55	.622	1.360	.175	-
Non-administrative		325	4.48	.596			
3. I believe that PDCA will improve the curriculum quality of preschools							
Administrative		231	4.68	.537	2.679	.008**	-
Non-administrative		325	4.55	.589			
4. I believe that PDCA will improve the administration of preschools							
Administrative		231	4.65	.539	2.428	.016*	-
Non-administrative		325	4.53	.575			
5. I am willing to apply the systematic concept to my work							
Administrative		231	4.62	.553	2.718	.007**	-
Non-administrative		325	4.49	.601			
6. I am willing to attend the advanced training in the future							
Administrative		231	4.46	.696	2.269	.024*	-
Non-administrative		325	4.33	.706			
7. Overall, this training met my expectations							
Administrative		231	4.52	.671	0.966	.335	-
Non-administrative		325	4.46	.626			

* $p < .05$ ** $p < .01$

Administrative Participants More Willing to Attend Higher-level Training

Three kinds of training, namely training lectures, workshops, and professional communities, require the participants to spend one day, two days, and half-day monthly for consecutive seven months on training. In other words, teachers further attending the next longer training reveal their higher motivation. As Table 2 indicates, the percentage of training participants with administrative duties increases from training lectures, workshops, and professional communities stepwise. With responsibility and authority to change their schools positively, they are more willing to attend further training.

Consistently, they give the qualitative feedback and sign up for further training as the workshop, and the professional community confirms similar findings. Comments like "expect to have relevant courses in the future" were made by more than 85% of the administrative position participants. Also, those active requests for attending the professional community are all teachers with managerial positions. For practical reasons, learners can obtain skills and knowledge to solve on-the-job problems quickly, which is critical for busy preschool teachers and administrators.

Table 2

The Number and Percentage of Participants with Administrative Duties at Each Training (N, %)

Duties	Training Lectures	Workshops	Professional Communities
Administrative	234 (41)	45 (54)	21 (66)
Non-Administrative	314 (56)	26 (32)	11 (34)
Others	15 (3)	3 (4)	0 (0)
Total	563	74	32

Training Participants Facing Changing Environment Showed Higher Motivation

Although the higher-level training requires devoting more time and efforts, training participants' professional needs affect their motivation to attend higher-level training. As Table 3 indicates, the percentage of training participants from non-profit preschools increases from training lectures, workshops, and professional communities stepwise.

Table 3

The Number and Percentage of Participants from Different School Types (N, %)

Preschool Type	Training Lectures	Workshops	Professional Communities
Public	97 (39)	34 (49)	10 (31)
Private	129 (51)	29 (41)	10 (31)
Non-Profit	25 (10)	7 (10)	12 (38)
Total	251	70	32

Teachers of non-profit preschools claim that PDCA has become one of the performance evaluation items in the non-profit preschool supervision system. Thus, they expect to participate

in the training to apply the training content in the actual work. The non-profit preschool, a new type of organization sponsored by the government to exploit the early childhood education market, encounters competitive and challenging tasks. Consequently, non-profit preschool teachers show a higher motivation to attend the training than the other types of preschools. The reason is to acquire knowledge that can be immediately applied to the work in response to supervision and evaluation. In other words, the urgency of work is an essential factor in initiating learning.

Discussion

Devotion to Training is Related to Preschool Workers' Needs

In this study, stages of training on system thinking were conducted to facilitate professional development. Each stage triggered individual-based learning, peer-based learning, and group-based learning while diffusing influences to the participants' colleagues. From the participant's response, the professional community and workshops were higher than the training lectures on the overall satisfaction of the training, perception of usefulness for preschool work, and the willingness to adopt PDCA in work-related projects. In other words, the more the training participants devote themselves to the participation, the more the training can trigger active learning and the results. There are two possible reasons for this phenomenon. Firstly, from a practical community perspective, the support system within professional communities is a crucial factor in professional development. In this study, lecture participants only spent six hours and had a one-time participation without a corresponding support system. In contrast, workshops and community activities had longer durations and more robust peer support among participants. Therefore, the effectiveness of learning in workshops and communities is superior to that of lectures.

Secondly, from an organizational learning perspective, this study required participants in workshops and communities to invite at least two colleagues from the same preschool to join. In other words, participants in workshops and communities, whether in the process of system thinking training or practical implementation in educational settings, had professional peers. Thus, teachers could bring back the knowledge and skills of system thinking to their organizations, which is an effective way of learning (Swieringa & Wiewdsma, 1992). Additionally, the professional community in this study spanned seven months. Members had to report their progress in practical implementation during each community activity every month. Therefore, the knowledge and skills of system thinking were put into practice in preschools, and the process of practical implementation was a collaborative effort among teachers. In this process, relevant knowledge and skills were integrated into the organization, triggering the organizational learning levels, especially in areas where preschools lacked knowledge and skills, such as system thinking. This process may have elevated the organizational learning levels from what Argyris and Schon (1996) referred to as single-loop learning to double-loop learning, allowing teachers to break free from existing thinking frameworks within the organization, reevaluate the organization's resources and problems, and find appropriate strategies. As a result, they perceived better learning outcomes.

Also, teachers with an administrative position revealed a higher interest and expectation to obtain the organization's sustainability knowledge than teachers concerned with teaching activities. Several studies indicate that leadership in the fourth way of educational change is related to a systemic, sustainable development approach (Briggs et al., 2018; Hargreaves & Shirley, 2012). Similarly, non-profit preschool training participants showed the need to develop capabilities to survive in the changing and competitive environment. Furthermore, PDCA is also one of the items for organizational assessment in non-profit preschools by government, making this capability extremely important.

For school administrators, learning how to solve the emerging problems is highly desirable. Besides, in the context of administrative work in preschools, system thinking is more likely to be used and more effective, so this is understandable in the context's point of view as indicated by Rohlwing and Spelman (2014). From the perspective of in-service teacher education, learners are interested in 'just-in-time learning,' which promotes need-related training to be readily available for their job (Griddith et al., 2014; Kirkpatrick & Kirkpatrick, 2016).

Barriers to Promote PDCA at Schools

Compared with primary and secondary school education, the preschool operation is relatively complex and challenging in quality control and management (Fonsen & Soukainen, 2019). While facing external challenges, preschool teachers and staff must work together and solve them effectively. However, with unique features and external pressure, preschool teachers' working environment has the following characteristics and barriers to promote PDCA.

First, decisional capital is essential but hard to build. Regarding the nature of teachers' work, it is necessary to make professional decisions in real-time according to the conditions on the spot. This capability is called decisional capital, acquired and accumulated through structured and unstructured work experience, practice, and reflection. Moreover, high professionalism needs long-term training (Hargreaves & Fullan, 2012). Parent involvement in young children's preschool education makes the situation more complex than teachers in other education stages. The requirement for professional capital at preschool is higher. Nevertheless, the reality is that preschool teachers' work environment is isolated. Spending most time with co-teachers, they have limited time to interact with other colleagues, which is not conducive to professional development (Mraz & Kissel, 2014).

Secondly, it is difficult to reach a consensus on adopting PDCA. Many participants revealed that the change would occur only if most of the colleagues agree to take action. Therefore, support from the administrators and teachers is essential. Getting support from colleagues and cooperative working is the primary factor for improvement in educational organizations (Melasalmi & Husu, 2019; Prenger et al., 2021). Without colleagues' cooperation and understanding, teachers would lack confidence and inspiration to change their work habits. School administrator's attitude also affects the movement. The support and assistance from managers for teachers' innovation and development would positively influence organizational learning.

Thirdly, there is limited human resource to promote PDCA. Work at preschools is fragmental and tedious. In terms of classroom activities, the work is full of trivial, long, but time-demanding tasks, which results in more fragmentary thinking and uneasiness in developing the habit of system thinking. Furthermore, a vicious cycle is formed to break through the difficulties and make the work efficient. Busy with their routine tasks, teachers and administrators cannot spare time filling out documents for the PDCA process. Under the limitation of labour, they face difficulties to adopt PDCA.

Fourthly, educational quality is not the priority because the preschool management pressure comes from recruitment. For many private schools, student recruiting is the ultimate goal. From the perspective of preschool management, curriculum innovation and business environment change rapidly in recent years, preschools need to respond to rapid changes in the outside world and adopt corresponding strategies accordingly in order to become competitive. Although education quality is the crucial component to pursue this goal, most teachers or administrators are not aware of the connection to school sustainability. Instead of working together with the administrators, they are seldom granted privilege to set or check a plan.

Finally, teachers depend considerably on external support or mentorship. Many training participants appreciate the leadership of the lecturers and expect to have periodical mentorship

afterward. However, these external resources providing both practical support and authority to guide the teachers cannot continue forever. The inner efforts for constant improvement are important (Lamanauskas, 2009; McLeod et al., 2019).

Conclusions and Implications

Preschools' quality cannot be maintained without highly professional teachers. Failure to establish a sustainable mechanism for professional development results in a high percentage of talent loss. It makes the preschools gradually give up purchasing the goal of maintaining high-quality service. By introducing the concept of system thinking and self-checking tools, preschool teachers are provided with opportunities to reflect on their work plan and the rationality of the organization's existing operation and thus produce effective strategies in response to the outside world's changing situation. More importantly, preschool teachers will also generate self-confidence and agency, which will change their preschool work views and thus start a sustainable positive cycle.

In this study, the organizational-learning approach was adopted to plan a systematic professional development training that includes lectures, workshops, and professional communities. Each of the three courses triggers individual-based single-loop learning, group-based learning single-loop and double-loop learning, as well as double-loop and deuteron-learning while the group diffuses influences to the organization. From the response of the participants, the professional community and workshops are higher than the training lectures on overall satisfaction of the trainings, perception of usefulness for preschool work, and the willingness to adopt PDCA in work-related projects. In other words, the more the training participants devote themselves into the participation, the more the training can trigger high-level organizational learning and the results.

In addition, teachers with an administrative position revealed a higher interest and expectation to obtain knowledge needed for the sustainability of the organization than teachers who are mainly concerned about teaching activities. Similarly, training participants from non-profit preschool show the needs to develop capabilities to survive in the changing and competitive environment. From the teachers' perspectives, the 'just-in-time learning' content can support their needs immediately. Therefore, the trainings should be divided into sessions with different learning objects and thus leading to a separate content. For example, the training for teachers should concentrate on teaching practice with system thinking approach, while the examples and content for supervisors can focus on the handling of administrative matters.

From the perspective of organizational learning, supervisors play a significant role in initiating organizational learning. Coincidentally, this study found that supervisors hold a positive view toward PDCA approach and actively participate in learning activities, which is a good start for promoting organizational learning. Therefore, in the future training for the supervisors, more activities may be arranged to assist the supervisor to become a leader of organizational learning, who will rebuild the organization's objectives and culture, and eventually to achieve the goal of sustainable development.

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Declaration of Interest

The authors declare no competing interest.

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Ching-Ching Cheng	PhD, Professor, Department of Early Childhood Education, National Chiayi University, 85 Wen-long Village, Chiayi 621, Taiwan. E-mail: chingching_cheng@mail.ncyu.edu.tw ORCID: https://orcid.org/0000-0002-1090-771X
Kuo-Hung Huang (Corresponding author)	PhD, Professor, Department of E-learning Design and Management, National Chiayi University, 85 Wen-long Village, Ming-Hsiung, Chiayi 621, Taiwan. E-mail: kuohung@mail.ncyu.edu.tw Website: http://web.ncyu.edu.tw/~kuohung ORCID: https://orcid.org/0000-0001-5716-7731
Yi-Kai Lin	EdD, Assistant Professor, Department of Early Childhood Education, National Taitung University, 369, Sec. 2, University Rd., Taitung, Taiwan. E-mail: yklin3510@nttu.edu.tw



THE USE OF GOOGLE TRENDS TO IMPROVE STUDENTS' LISTENING AND SPEAKING SKILLS

Saban Kara

Tishk International University, Iraq

E-mail: saban.kara@tiu.edu.iq

Abstract

Using authentic materials, such as books, videos, news, and podcasts has received increasing attention in English classes in the last two decades. Among others, Google Trends serves as a platform to choose authentic materials based on their popularity on a global scale. It has been displaying huge data about the most popular news, people, events, books, movies, and songs since 2004. To this aim, 40 Foundation English students who studied at a private university in Erbil, Iraq, were chosen through a simple random sampling method for the 2022-2023 Academic Year. Control group students kept their education according to the principles of the pre-defined curriculum, while experimental group students made a presentation about a trending topic on Google, prepared a listening quiz, and ran a speaking session. The data, collected by exams and surveys, were analyzed by SPSS 26 and NVivo application, revealing that Google Trends enriched teaching mode, increased students' listening scores and enhanced speaking performance significantly in the experimental group, whereas no noticeable progress was observed in the control group. Likewise, students' motivation towards learning English increased significantly in the experimental group, while it was less than noticeable in the control group. The findings of this study can have some implications for educators who consider integrating Google Trends into the curriculum to present authentic materials.

Keywords: *authentic materials, Google Trends, listening scores, enhanced speaking performance*

Introduction

Language learning and teaching process has transformed substantially in the 21st century. It cannot be envisioned that English will be exempted from this transformation with its 1.5 billion speakers either natively or second language as the most widely spoken language in the world. Its reign has been noticed starkly in the education, real, and professional life of the people. Meanwhile, globalization and technological advancements have considerably changed the nature of the language learning and teaching process (Kara, 2023). Staying in touch with foreigners through video calls or online gaming initiatives, watching online lessons from dynamic tutors, and learning English through online games, movies, or podcasts have raised the awareness of the learners, so they have demanded to learn English in an engaging atmosphere as well as reducing the time of mastery compared to previous generations' long and challenging journey. In this respect, English learning and teaching instruction has been updated accordingly to meet the needs of the learners. The first shift has been noticed in terms of teaching methods or approaches. To illustrate, Grammar Translation and Direct Methods have been replaced with the Communicative Language Teaching Approach, Task-Based Language Learning Method, or Inquiry-Based Learning Method. While the former emphasizes the importance of grammatical mastery and repetitive drill in a teacher-centered mode, the latter ones highlight endless communication between the students and the teachers via authentic materials, meaningful tasks, or discovery. Authentic materials are materials not produced primarily to teach English

in classes. Rather, they are created to offer real-life situations, so the gap between theory and real life will be eliminated gradually. The rationale for integrating authentic materials into English classes is that they are engaging, imaginative, and motivating (Celik et al., 2022; Softa, 2011; Ulker & Yildiz, 2021). Several examples of authentic materials include newspapers, magazines, TV programs, movies, songs, podcasts, brochures, advertisements, story books, articles, interviews, etc. Similarly, Task-Based Language Learning Method supports learners in improving their English via well-established tasks. Similarly, inquiry-based learning urges learners to research out of curiosity and satisfy their unquenchable thirst for new information (Pedaste et al., 2015). It can be argued that authentic materials provide ample opportunity to foster communication, finalize tasks, and dive into a thorough search out of curiosity.

Google Trends (GT hereafter) has unleashed internet search patterns by analyzing web queries on the Google Search website since 2006. It has a lot of user-friendly features such as being subscribed to get updates via email, downloading queries, or sharing data via social media platforms (Gummer & Oehrlein, 2022). It allows visitors to figure out the most frequently searched items previously or currently. It also illustrates a specific topic's popularity over time by an easily conceivable graph. Furthermore, frequently searched items can be observed either as worldwide or country-based (Borup & Schutte, 2022). Apart from specific topics, there are 25 categories to search ranging from arts to travel. Thus, it helps marketers to understand consumer trends and make sensible investments. Additionally, it can be useful for inspectors or police officers to predict criminal acts in advance and take precautionary measures. Subsequently, it warns people about an imminent pandemic to take some steps beforehand. Moreover, the inclinations of different societies can be pinpointed with ease. After that, users can be privileged to be informed about the latest movies, books, and car models, so they can decide correspondingly. It also revolutionizes the way people develop their skills in English. In other words, the intriguing point of Google Trends for language learning and teaching purposes is that it paves the way for reaching authentic materials and improving English in an unorthodox format (Nielsen & Ganter, 2022). To name a few, users can notice that a pop singer is trending now, so they can be directed to her released albums. In addition, visitors can realize that a tanker is blocking the Suez Canal due to a technical failure, so they channel all their energy into following news on it. Additionally, viewers can observe that an author's new book has received harsh criticism, so they are urged to watch some TV programs covering it. Furthermore, fans can see that the World Cup is receiving a lot of attention, so they start listening to some podcasts about upcoming matches. Similarly, users can be alert that an advertisement has a lot of supporters, so they want to watch it as well (Chaffey & Chadwick, 2019). As it is clear, Google Trends appeals to all people, regardless of being a marketer or a student with different reflections in their lives.

Listening is one of the most important macro-skills on the way to being a proficient speaker of English. It lays the background through input as a receptive skill, so the speaking performance of learners is enhanced correspondingly (Kara, 2023). Listening is considerably different from hearing, as it requires the learners to grasp, digest, and understand, so they can respond to the prompts more accurately. However, it is one of the most challenging skills to be improved. Some common barriers to effective listening arise frequently if learners miss keywords, lose concentration after a while, skip taking notes or rush to respond earlier (Lengkoan et al., 2022). Some techniques can help the learners to eliminate such barriers to a large extent. For example, learning new words with their pronunciation, listening to audio tracks in a graded way regularly, taking abbreviated notes, and balancing time to respond and double-check answers can help test-takers to increase their listening scores. Apart from making an effort to improve listening skills in traditional classroom settings, some web-enhanced tools such as e-books, podcasts, movies, and songs can also be used extensively to master listening in a short time (Putra & Dianti, 2022). Considering the importance of listening skills,

nearly all textbooks encompass certain activities to practice and develop them. Additionally, an internationally accepted standardized test such as TOEFL, IELTS, PTE, or SAT cannot be imagined without listening to questions. It can be stated that listening skill is at the center of communication, so it should not be underestimated to reap the benefits of it at school or in real life.

Speaking is also one of the most important macro-skills in the language learning and teaching process as a representative of productive skills. Mastering speaking has some prerequisites such as knowing how to pronounce words, ordering the words accurately, choosing the right vocabulary, overcoming speaking anxiety, and commanding necessary grammar rules (Shareef, 2023). In other words, there is a direct relationship between speaking and other skills. Speaking skills have another role in increasing students' engagement to learn further. For example, learners who can express their ideas regularly with well-established activities can progress faster because they practice and enjoy the pleasure of speaking in real life. However, learners who prioritize other skills and ignore speaking skills may lose their enthusiasm after a while. Thanks to technological advancements, many opportunities are available to develop speaking skills (Rao, 2019). For example, learners can find a speaking partner through chat applications. Additionally, schools can take the initiative to find a speaking partner who studies in a foreign country. In addition, online tutoring alternatives have increased dramatically in the post-Covid-19 era. Subsequently, learners can play interactive games. Moreover, they can watch a movie and dub the scenes with their own voices. After that, they can record their voices to be evaluated by a robot, working by the principles of AI. As it is unambiguous, there are numerous ways to boost speaking performance and take advantage of it whenever needed.

Research Significance

Technology-enhanced language learning and teaching has received increasing attention at educational institutions. Correspondingly, using authentic materials such as videos, news, podcasts, and e-books has intrigued education stakeholders to improve the level of learners in English classes. However, there has yet to be a consensus on prioritizing one authentic material over others in English classes. Additionally, a gap in the literature has been observed in implementing Google Trends in ELL classes. Google Trends has the potential to encourage learners with real-life situations, so they progress their English as they read, watch, and listen to materials that are relevant to their daily lives. In addition, they are directed to satisfy their curiosity by researching further because a wide variety of information can be reached about the same topic with the help of various websites. Thus, Google Trends can be used as an essential tool to enrich English lessons with authentic materials in the Iraq context, which is not a common practice, as noticed after examining published files thoroughly.

Literature Review

The popularity of Google Trends has risen exponentially since its advent in 2006, as it has been run by the top search engine, Google Inc., with a 95 % share in mobile traffic globally (Eichenauer et al., 2022). It is a unique tool to know the tendencies of people who live in different countries. Additionally, hotly debated topics, breaking news, and newly released products can also be observed in Google Trends (Kansal et al., 2021). Thus, it helps nearly everyone worldwide to make some interpretations accordingly. In this respect, relevant authorities have widely used Google Trends in many sectors (Kohns & Bhattacharjee, 2023). To name a few, it has been used as a marketing tool to realize the potential of some products and manufacture them. Additionally, some defects of some products can be a trending topic, so the company takes it as a warning to remove the defects and produce trouble-free products to

increase their influence in the global market. Subsequently, a school principal follows the latest trends in traditional, hybrid, or distance education through Google Trends to update the features of the school correspondingly. Moreover, a supervisor of a logistics company can predict some inclinations about e-trucks, thereby purchasing some of them to reduce the cost and protect the environment respectively. Afterwards, the CEO of a music and entertainment company keeps an eye on the latest trends and urges authorized bodies to release movies and albums according to the needs of the industry. Next, a board of trustees can replace unpopular departments with futuristic ones based on the trends on Google.

An increasing number of studies have been conducted on the effects of Google Trends in various fields with varying implications. To illustrate, Choi and Varian's (2009) study unearthed that Google Trends can predict unemployment, automobile demand, and holiday destinations. They hinted that a correlation could be found between the countries suffering from the economic crisis and a dramatic increase in meeting search queries related to unemployment. They also reiterated that a correlation can be pinpointed between income levels and the automotive demands of the countries. In the same vein, they attest that a connection can be forged between search queries of holiday spots and citizens' reserved money in a certain country. Another notable study was carried out by Ortiz-Martinez et al. (2020) to predict an upcoming pandemic such as COVID-19 through Google queries. They state that Google records can be used to predict some diseases, raise people's awareness to take some measures, and seek health treatments to recover as early as possible. Similarly, Rech (2007) found that Google Trends can easily determine the acceptance rate of new technological items. He contends that if a new device has been searched more than others, it shows that they attracted more attention than others. Thus, consumers' attitudes towards new gadgets can be measured easily via Google Trends.

A wealth of research has also been carried out on the effects of Google Trends in education. For example, Kansal et al.'s (2021) study revealed that a substantial increase in queries on online learning tools has transformed teaching from a traditional to an online or hybrid format in the current and upcoming years. In addition, Rao's (2019) study uncovered that choosing news according to the popularity in Google Trends increased students' proficiency in English. Similarly, Sakkir et al.'s (2020) study revealed that teaching English through popular videos of the week based on Google Trends can tremendously enhance students' speaking performance. Likewise, Barno's (2021) study showed that choosing popular TV programs, news, articles, or books can increase students' macro-skills substantially. He also hints that choosing lowly-rated teaching materials can adversely affect language learning and the teaching process. Additionally, Asyifah and Indriani's (2021) study revealed that choosing podcasts that are trending globally can increase students' enthusiasm as they are familiar with them through news, videos, or TV programs. They also assert that popular podcasts can gradually help people improve their listening skills. In addition to previous ones, Turley's (2023) study also showed that summarizing daily newsletters sent by Google can unlock students' potential in writing because they can be interesting, engaging, and inspiring.

Research Aim and Research Questions

The effects of Google Trends enriched teaching on speaking enhancement and listening development in the Iraq context at the tertiary level were explored meticulously in this study. Thus, this study may increase awareness about integrating Google Trends to embed real-life situations into ELL classes. Accordingly, the research questions (RQ) were formulated as follows:

- RQ1. Does Google Trends enriched teaching pave the way for improving students' listening skills?
- RQ2. Do Google Trends integrated lessons develop students' speaking skills?
- RQ3. Does Google Trends affect students' attitudes toward learning English in general?

Research Methodology

General Background

The type of research design employed in this study was a mixed method that guided the researcher to integrate qualitative and quantitative instruments into the study harmoniously. Bryne and Humble (2007) attested that a mixed method research design offers several advantages, such as gaining more accurate data by taking strong points of qualitative and quantitative methods, so it has been used extensively in social science studies. In this respect, surveys included the interview and the questionnaire, whereas pre-tests and post-tests were composed based on listening and speaking tasks. Meanwhile, surveys encompassed Likert scale-based questionnaire items and open-ended questions which were exposed to face validity and pilot study. The committee, including testing experts and linguists, examined the items critically and offered precious feedback to direct coherent questions to the participants. Likewise, a pilot study was also carried out on 40 students, who were studying the Foundation English course in a year like primary participants, to provide the groundwork and increase the success rate of the main study. Some irrelevant or ambiguous questions were replaced with easily understandable ones after the pilot study, so the data collection process could be completed more efficiently. Hassan et al. (2006) stated that a pilot study is crucial to test research protocols and data collection instruments in preparation for a larger study. In the final phase, Cronbach Alpha was run to check the questionnaire's internal consistency, which was .87. Tavakol and Dennick (2011) pointed out that .80 or greater Cronbach Alpha levels are good indicators of reliable items in the questionnaire, so the reliability level in this test was higher which hinted that internal consistency was set successfully.

Sample Selection

The setting of the current study was a private university in Iraq, where around 5,000 students have been taking English Medium Instruction in 29 majors as of the 2022-2023 Academic Year. The university has diverse communities to offer education, so students from various countries have chosen it to find a common ground which is taking all lessons in English. Additionally, the population of the study was 200 students who took the Foundation English course as a non-elective technical course to lay a solid background in English, thereby adapting to all departmental lessons in a short time. Simple random sampling was used as a method to form the sample. It was realized by assigning a certain number for each Foundation English student and choosing them randomly via a software called Number Picker Wheel. 22 of them were female, 18 of them were male students, and their ages were between 18 and 21. Additionally, they were studying in 8 different departments ranging from petroleum engineering to nursing.

Instrument and Procedures

The data collection process spanned 12 weeks during the spring semester of the 2022-2023 academic year. The rationale for conducting the study in the spring semester was to train them thoroughly in the fall semester, so they would have enough self-confidence to express their ideas in a spoken and written format while exploiting the power of Google Trends data with various activities. To realize this goal, they took all lessons to master English in terms of macro-skills and micro-skills with the guidance of qualified and dedicated English instructors, who have the sole responsibility of managing Foundation English courses at the university. Prior to the data collection process, all participants took comprehensive workshops to be informed about the nature of the study, sign consent forms to join the study voluntarily and ask

any questions to be clarified. The conduct of the lessons was common until this point; however, it was totally different in the subsequent phase. To illustrate, control group students received the education in an orthodox way as highlighted in the curriculum previously, while experimental group students were in charge of choosing a worldwide trending topic in the last 12 months based on the information illustrated on the official website of Google Trends and addressing a presentation related to it. Filtering 12 months was done to give students more alternatives to choose from the recent past and restore other students' memories. While an assigned student was making a presentation, s/he was free to show a video, display a relevant article, and direct any question to the students, so the principles of the communicative language teaching approach were followed adamantly. The activities included using authentic materials and exchanging ideas via question-and-answer sessions. In the final phase, students watched the related video one more time and answered 5 multiple choice-based comprehension questions, designed by the responsible student and proofread by the researcher, to check their comprehension rate in listening. This cycle continued for each student according to the predefined plan. Considering data collection instruments, a pre-test was conducted the day before the study commenced, while a post-test and surveys were conducted at the end of the period to have a clearer image of the effects of Google Trends teaching mode.

The members of the exam committee developed questions in the pre-test and post-test exams based on the listening and speaking activities of the course book, covered officially in all Foundation English classes. Scope 2 was used as a reference book to create pre-test and post-test exams. Each listening exam included 20 questions based on the book's audio tracks. They listened to the track twice and answered multiple-choice questions via Zip Grade. Zip Grade application was chosen on purpose because it offers standardized tests conveniently and shows the scores immediately which increases the accountability of the exams significantly. When it was time to measure their speaking skills, students answered the questions, chosen from Scope 2, and earned their marks based on the rubric. Students' topics to make a presentation included the 2023 UEFA Champions League Final, 5G, Ali Express, Amazon.com, Black Friday, Mode of Transport, ChatGPT, EA Sports FIFA 23, Google Docs, Harry Potter Novel Series, iPhone 14 Pro, Kylian Mbappe, Lionel Messi, Meta Technology Company, Morocco, Saudi Arabia, Tesla, TripAdvisor, World Cup 2022, and Argentina.

Data Analysis

(SPSS, 26) and NVivo applications were employed to fetch and analyze the data accordingly. The former was activated to analyze quantitative data, while the latter was activated to analyze qualitative data, thereby allowing the researcher to classify common themes in content analysis. Independent samples *t*-test was used to determine whether there was a significant difference between control and experimental group students in terms of mean scores in listening and speaking exams. In addition, descriptive analysis was used to analyze the items in the questionnaire in terms of mean and standard deviation. Subsequently, recordings of the interview were transcribed, and the advantages and drawbacks of Google Trends enriched teaching were categorized through content analysis.

Research Results

Perceptions towards Google Trends

Students' genuine opinions about the effects of Google Trends enriched teaching are explored in terms of developing listening skills, boosting speaking performance, increasing motivation with real-life situations, and changing overall attitude towards learning English. The details are visualized as shown in Table 1.

Table 1

Participants Opinions on the Effects of Google Trends Enriched Teaching

Item no.	Item	Min	Max	M	SD
1	I developed my listening skills via Google Trends enriched teaching	2	5	4.05	1.35
2	I improved my speaking skills via Google Trends enriched teaching	1	5	4.50	1.14
3	Google Trends helped me change my attitude towards learning English	2	5	4.25	1.29
4	Google Trends helped me succeed in my departmental courses	1	5	3.85	1.56
5	It was appealing for me to integrate real life events in English classes via Google Trends	2	5	4.00	1.29

Table 1 reveals participants' opinions on the effects of Google-enriched teaching. Once they were examined meticulously, significant points emerged. To name a few, the analysis of the first item showed that the majority of the participants noticed positive impacts of Google Trends on their listening comprehension rate ($M = 4.05$, $SD = 1.35$). Similarly, focusing on the second item revealed that there was a positive correlation between Google Trends and students' speaking performance ($M = 4.50$, $SD = 1.14$). Subsequently, the analysis of item 3 unearthed that Google Trends enriched teaching encouraged them to study English more ambitiously and seek opportunities to master earlier ($M=4.25$, $SD=1.29$). Conversely, item 4 analysis uncovered that Google Trends enriched teaching did not pave the way for increasing their success in other classes albeit run completely in English ($M=3.85$, $SD= 1.56$). The last item in the questionnaire was about participants' opinions on the integration of real-life events in English classes via Google Trends. The findings indicated that the majority of the students found the treatment period appealing to capture their attention ($M=4.00$, $SD=1.29$). Once all items are analyzed in detail, it can be concluded that Google Trends enriched teaching yields better results in various aspects with varying degrees.

The Results of the Interview

Participants outlined the advantages and disadvantages of Google Trends enriched teaching in the interview. In addition, they summarized significant gains that they earned throughout the study. Correspondingly, the advantages and disadvantages of Google Trends enriched teaching mode are depicted in Tables 2 and 3.

Table 2*Participants' Choices on Benefits of Google Trends Enriched Teaching*

Benefits	Frequency	Percentage %
Exposure to real language	20	100
Expanding Word Power	16	80
Engaging	15	75
Raise Cultural Awareness	11	55
Up to Date	20	100
Variety	19	95
Spark Curiosity	18	90

Table 2 indicates participants' responses to highlight some benefits of Google Trends enriched teaching mode. When Table 2 was analyzed closely, it was observed that participants appreciated the exposure to real language, up-to-date information, variety, learning further out of curiosity, expanding word power, and having engaging classes with varying degrees. However, raising cultural awareness was not praised like other items, which hints that Google Trends does not necessarily mean increasing readers' knowledge of cultural elements.

Table 3*Participants' Preferences on Drawbacks of Google Trends Enriched Teaching*

Drawbacks	Frequency	Percentage%
Too Difficult to Grasp	3	15
Uninteresting	4	20
Overwhelming	2	10
Time-consuming	1	5

Table 3 shows participants' responses to highlight some drawbacks of Google Trends enriched teaching mode. It illustrated that Google Trends enriched teaching posed some problems to be reconsidered to increase its positive effects on readers. For example, a few students asserted that they were uninteresting, challenging to figure out, overwhelming, and time-consuming. Balancing the number of topics, dividing topics into manageable and understandable chunks, and choosing topics according to the interests of the learners can eliminate such problems to a great extent. The findings of the interview with participants also indicated some themes to be emphasized.

Forging Connections between Visually Stimulating Materials and Google Trends

Reading articles, being familiar with statistics, and monitoring images have emerged as the sub-theme of learning out of curiosity. Students have emphasized that it has far-reaching effects on their learning because they have made connections between visually stimulating items and topics on Google Trends. Some statements regarding this theme are as follows:

"This study has changed my attitudes towards learning English via trending topics. I have seen that learning English is fun when we watch videos or read articles about familiar topics. In addition, it is easy to keep the words in mind when we have some images and videos about certain topics. Another point to consider about this study is that we are encouraged to search more out of curiosity. For example, one of my friends introduced World Cup 2022 with interesting videos, statistics, and newspaper headlines. Later, I researched more about World Cup 2022." (St 2)

Sharpening English through Real-life Events

Exploring real-life events based on Google trends has emerged as another noteworthy sub-theme. Participants have highlighted that they have become more ambitious when real-life events are covered in the lesson. Additionally, they have reiterated that learning English has become a joyful activity rather than a monotonous task that demotivates learners. Sincere opinions about this theme are as follows:

"It was so memorable to join this study. I realized that learning English is more interesting when real-life events are embedded into classes. I have learned English through textbooks so far. However, some of the topics were out of date which reduced my motivation. This cycle was broken in this study. I watched some videos and read some articles about trending topics throughout the world. I am interested in artificial intelligence, so Chat GPT presentation was captivating for me. I learned further information about it, advantages and disadvantages through the lens of experts. I also increased my knowledge about it on the web when I had some question marks in my mind. All in all, this mind-blowing study helped me to use English for daily conversations." (St 3)

Boosting Self-confidence

Having the freedom to summarize trending topics on Google has encouraged learners to develop their spoken English. In addition, prior research has been activated to speak more persuasively which has fostered communication in the class. The perspectives of the participants are illustrated as follows:

"My daily routine is to follow breaking news and trending topics on Twitter, so I found the conduct of lessons interesting in this study. I refreshed my memory when my friends introduced a trending topic. I also expanded my knowledge about these topics. In addition, we improved our listening by watching a lot of videos. Likewise, we commented on videos which boosted our self-confidence to express our ideas freely. I am grateful that I have joined this study." (St8)

Being Exposed to Interesting Topics Based on Hobbies

Encountering a lot of topics based on popular hobbies has captured participants' attention. They have become more inclined to expand their knowledge as the topics are as close to their interests. The genuine ideas of some participants are depicted as follows:

"I am into sports, so I had a lot of opportunities to be more knowledgeable about sports and learn English simultaneously. For example, we watched highlights of some matches in the 2022 World Cup, held in Qatar, learned some enhancements in EA Sports FIFA 23, read the magnificent success story of Manchester City as the winner of the 2023 Champions League, followed Lionel Messi's transfer to Inter Miami, followed the rumors on Kylian Mbappe's possible move to other European clubs. Each activity captured my attention, so I watched each video and read each shown article several times, so I improved my English a lot during this study. It was a great privilege to combine my interest with English classes." (St 11)

Paving the Way for Unlocking the Potential

Seizing the opportunity to explore possibilities in realizing lifelong dreams is another significant sub-theme, emerging in this study. Participants have found a lot of common grounds to seek precious knowledge and be respectable entrepreneurs in the future. Some novel ideas are given as follows:

"I want to be an entrepreneur in the future. Accordingly, I see great potential to unlock in the online shopping sector. Throughout the study, we embarked on different journeys, but the stories of Amazon and Ali Express were more appealing than others. I have learned a lot of precious lessons to increase the profit and sustainability in online shopping. I am also interested in electric cars whose forefront representative is Tesla. Tesla's rising popularity was depicted clearly in the videos and articles, so I got so much pleasure while watching and reading them. At the end of the study, I noticed that I learned a lot of essential words and developed my listening and speaking skills by indulging in numerous activities." (St 12)

Facilitating Challenges in Social Life

Following Google Trends based on the necessities of social life is another crucial theme which deserves special attention. Participants have focused their concentration on their current plans, so they have followed trending topics correspondingly. Some statements which are uncovered are illustrated as follows:

"I am crazy about travelling, so I travel more frequently than typical people to explore and release my stress. Getting a detailed description of Trip Advisor was the most intriguing part of the study for me. I learned nearly all the features of Trip Advisor. Hence, I will use it more frequently to get valuable suggestions of visitors for a certain place and filter hotels and restaurants based on my needs. In addition, the presentation on 5G helped me to weigh the pros and cons of them with unambiguous examples. To cut the long story short, this study was beneficial for me in many aspects." (St 14)

Being a Citizen to Have Global Awareness

Indulging in some thorough research on controversial topics has intrigued the participants. They have become more alert as they are more knowledgeable on global issues that may affect the whole world regardless of the territory. Some expressions are given as follows:

"My department is computer engineering, so the theme of 5G was captivating for me. I learned the principles of 5G, promises, and some possible drawbacks from different sources. Additionally, I dived into some documentaries about 5G in the subsequent phase. My friend who made a presentation compared 5G with previous versions, so it was very informative. Once we were exposed to various reading and listening materials to comment, our proficiency in English increased considerably." (St 17)

Grabbing the Opportunity for Professional Development

Having ample opportunity to be equipped with certain skills which will lay the background for a professional career has attracted considerable attention as it is an indispensable part of people's lives. The perspectives of some participants are depicted as follows:

"My department is accounting, so I want to sharpen my computer literacy skills gradually. This study inspired me to learn the basics of Google Docs and be informed about cost-free courses to

expand my knowledge of Google Docs. Now, I am more knowledgeable in editing, creating, and saving files with the help of Google Docs. In addition, I would like to buy an iPhone 14, so the video unboxing iPhone 14 was so useful in learning the differences between iPhone 14 and older models. All activities fostered my communication indirectly, so I enhanced my listening skills and progressed in speaking at the end of the study.” (St 19)

Descriptive Results

Participants' listening and speaking pre-test and post-test scores were compared to determine whether the difference was significant. The details are examined below in Tables 4 and 5.

Table 4
Pre-test and Post-test Results of the Experimental and Control Groups in Listening

Variables	Measurement	N	M	SD	t	df	p
Pre-test	Control	20	56	10.079			
Pre-test	Experimental	20	56.75	11.502	.219	38	.828
Post-test	Control	20	56.50	12.680			
Post-test	Experimental	20	72.75	19.089	3.171	38	.003

Table 4 reveals participants' listening performance considering pre-test and post-test scores. Through the calculated t-statistic, at a level of significance of .003, a statistically significant difference was found between the results in the post-test of the experimental and control groups of participants. In the output measurement, the experimental group improved more significantly than the control group. Similarly, the average of control group students increased by less than 1 point, whereas the difference was 16 points in the experimental group. Those figures reveal that Google Trends enriched teaching affects participants' listening performance positively.

Table 5
Pre-test and Post-test Results of the Experimental and Control Groups in Speaking

Variables	Measurement	N	M	SD	t	df	p
Pre-test	Control	20	57.25	12.822			
Pre-test	Experimental	20	59.50	11.227	.590	38	.558
Post-test	Control	20	59.25	8.926			
Post-test	Experimental	20	71	14.473	3.090	38	.004

Table 5 shows participants' speaking performance through pre-test and post-test scores. Based on the computed t-statistic, with a significance level of .004, a statistically significant difference was seen between the outcomes of the post-test for the experimental and control group students. In terms of output measurement, it was observed that the experimental group exhibited a more substantial progress compared to the control group. In a similar vein, it was

observed that the mean score of students in the control group exhibited a 2-point gain, whereas the experimental group demonstrated a much larger difference of 11.5 points. The data presented indicates that the utilization of Google Trends in educational settings has a positive impact on the listening skills of the participants.

Discussion

The results, which were gathered through questionnaire, interview, listening and speaking exams, showed that the participants credited the role of Google Trends enriched teaching in allowing them to increase their self-confidence in speaking, develop their listening comprehension skills, change their attitudes towards learning English with the help of real-life related excerpts.

Participants' preferences in the questionnaire uncover essential points to be emphasized. To illustrate, they stated that Google Trends enriched teaching mode helped them develop their listening skills. They also contended that the provided learning materials via Google Trends pushed them to be an active speaker in class thanks to being familiar with them in their social lives because Google Trends affects the content of the news bulletins and many other websites for a while. They also asserted that Google Trends urged them to research more and expand their knowledge in English, so they could apply this practical knowledge to their conversations in their departmental courses. Likewise, they elucidated that they became a more enthusiastic learner of English after being exposed to English with real-life events. Their motivation increased as they grasped details and discovered more via Google Trends.

The findings of the interview revealed that there were several benefits of Google Trends enriched teaching. For instance, participants held the opinion that being exposed to teaching, taken from real-life situations, was engaging because the topics were up to date to capture their attention. They also pointed out that Google Trends offered ample opportunity to raise cultural awareness because the trending topics may cover cultural elements of various countries. Subsequently, participants reiterated that they were encouraged to get further information about the given topic, so they had the chance to extend their learning with numerous web-enhanced materials. This finding was consistent with Boyko et al.'s (2023) study which revealed that web-based videos, news, and articles can close the gap between theoretical instruction and real-life situations. Subsequently, participants praised examining up-to-date materials through Google Trends which was in line with Kansal et al.'s (2021) study. In addition, participants found the instruction engaging because the topics were interesting, up-to-date, and varied. Barno (2021) attested that interesting topics in various formats increased students' motivation and willingness if designed in a well-balanced way. After that, participants pointed out that they expanded their vocabulary knowledge dramatically which was consistent with Marpaung and Situmenag's (2020) study. Kara (2023) and Kucuk (2023) stated that breaking the monotony with engaging topics could urge the learners to spark curiosity, so they were inclined to seek novel information in their free time.

On the other hand, citing a lot of positive sides of Google Trends enriched instruction does not necessarily mean that it has no drawbacks. Participants expressed their doubts about the effectiveness of it with some compelling reasons. To name a few, they emphasized that there were some challenging topics which were beyond their understanding. They highlighted that the degree of difficulty should have been balanced while integrating it into English classes. Likewise, they stated that some topics were not so appealing to them because they did not have any prior information or interest in some topics. Another drawback mentioned by the participants is that some tasks were overwhelming, which demotivated them. Their comments hint that the duration should be considered meticulously to keep them concentrated during the activity. In the same vein, participants attested that they spent much time reading, comprehending,

and taking the relevant quizzes which was another issue to lose their ambition towards going further. Belaid and Murray (2015) stated that authentic materials should be embedded into the curriculum professionally. Otherwise, some issues arise, thereby reducing the satisfaction rate of the learners gradually.

The last data collection instruments were listening and speaking exams which highlighted significant points via independent samples t-test. When pre-test exams were compared with post-test exams, it was revealed that the listening and speaking marks of the experimental group increased more significantly than control group students. This finding revealed that Google Trends enriched teaching mode ensured far better results, whereas the progress was not noticeable in the control group students, who followed their curriculum in an orthodox format. It can be concluded that quantitative data and qualitative data complemented each other harmoniously in this study albeit some minor drawbacks of Google Trends enriched teaching mode. Morales and Beltran (2006) contended that web-enhanced authentic materials not only enhance speaking but also develop listening skills.

Conclusions, Implications and Recommendations

The effects of Google Trends enriched teaching were sought meticulously in this study. The results revealed that the adopted teaching helped students to break the monotony, research further for interesting topics, expand their vocabulary knowledge, increase overall comprehension, and boost speaking performance in a confident way. In other words, varied materials such as videos, news, and articles sparked their curiosity to learn in and out of class. In addition, assessment tools to measure their listening and speaking skills kept them alert to join activities more consciously. Moreover, putting theory into practice with real-life examples increased their motivation to master English in a short time and get pleasure while expressing their ideas through authentic materials.

The results of this study may have certain implications for enriching English classes with authentic materials, primarily Google Trends. Although there are various authentic materials, Google Trends stands out with its distinctive features. To name a few, it allows users to filter trends based on topics or countries. In addition, it shows visually stimulating graphs to grasp details without having much difficulty. After that, users can connect images and words in the mentioned articles. Educators can consider integrating Google Trends into their English classes to reap the benefits of it so that monotony can be broken with popular topics. Subsequently, Google Trends paves the way for learning out of curiosity with further links. They can be navigated to any articles, news, videos, or podcasts conveniently. Those advantages can be grabbed at educational institutions to spark curiosity and incidentally enhance students' learning rates. Afterwards, several positive effects of making a presentation were uncovered in the findings, which may trigger stakeholders in education to increase the volume of presentations in English classes. Well-organized presentations can help learners express their ideas more confidently so they can gradually improve their public speaking skills. Another important finding of this study was the power of combining reading activities with listening tracks. It was noticed that supporting reading activities with relevant listening excerpts could considerably develop students' overall skills. Authorized bodies to develop students' English levels at educational institutions can implement a plan to enrich reading activities with audio-enhanced tools. Moreover, pre-service teachers can be trained to seize the opportunities of Google Trends in English classes with noteworthy reflections. Likewise, internal seminars can be conducted to raise awareness about the value of Google Trends-enriched teaching at educational institutions on a global scale.

Some recommendations can be made for future studies. Only two macro-skills were included in this study, which can be expanded with other macro-skills or micro-skills to pinpoint

the effects of Google Trends enriched instruction. In addition, the filter was activated within 12 months, which can be filtered within 90 days, so students can restore their memories more easily. Likewise, the study lasted 12 weeks, which can be prolonged to get a clearer image on the effects of Google Trends enriched teaching. Finally, the effects of Google Trends enriched teaching on sophomore, junior, and senior students at the tertiary level can be studied in future studies.

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Saban Kara

Instructor, Department of English Language Teaching, Faculty of Education, Tishk International University, Erbil - KRI, Iraq.
E-mail: saban.kara@tiu.edu.iq
ORCID: <https://orcid.org/0000-0002-7501-7961>



DESIGNING INTERNSHIPS FOR THE DEVELOPMENT OF DIGITAL SKILLS OF AGRICULTURAL STUDENTS IN VIETNAM

Quan Thuan Kieu
Chiang Mai University, Thailand
E-mail: thuankqt@gmail.com

Abstract

To prepare citizens for the digital era, the Vietnamese government has issued guidance for higher institutions to play a vital role in cultivating digital skills. However, these institutions face challenges due to limited digital technology capacity, resulting in inadequate skill development. To address this, they collaborate with industries through internships to provide students with opportunities to enhance their digital skills in real work settings. Nonetheless, the strategies that higher institutions have implemented in designing internships for the development of students' digital skills are questionable to the public. Hence, this study aimed to explore the educational strategies implemented by higher education institutions in Vietnam to design internships that enhance learners' digital skills. Using a qualitative approach, primary data was collected through interviews with six policymakers from a higher institution in southern Vietnam, and additional data was gathered from documents related to internship and curriculum designs. Thematic analysis of the data revealed several strategies implemented in internship design, including curriculum design, pre-internship preparation, stakeholder regulations during internships, and evaluation actions. These strategies were identified as major themes for effective internship designs and the development of students' digital skills. The study also suggests various applications for multiple stakeholders and highlights the need for further research in this area.

Keywords: *designing internships, development of digital skills, agricultural students, Vietnam*

Introduction

The rapid digitalization in recent decades has gradually formed new trends for almost all aspects of human activities, and especially, it strongly affects the market force, shaping new forms of the nature of vacancies worldwide. As Restuccia (2019) noted, a significant majority of low-skill job postings (77%) require candidates to have digital skills, while intermediate (85%) and high-skill (75%) job postings require a higher level of digital proficiency. The demand for digital skills in the workforce is also evident in the earning potential of such skills. Jobs that require digital skills have an average income of approximately £40,000, which is 40% higher than jobs that do not require digital proficiency, whose average income is around £28,600. Furthermore, the demand for digital skills in both developed and developing nations is high, although it is lower in inquiry in developing nations compared to it in developed nations (Yungshin, 2021).

To assist students in preparing digital skills for employability, educational institutions worldwide have initially tried to equip the digital skills to their learners; however, it is recognized that this effort is just in the initial stage (Jackman et al., 2021). Therefore, there have arisen two key issues in the teaching of digital skills to students at the higher institutions, and these issues have been a big concern for higher institutions worldwide. The first issue is the need to deal with the equipment of digital technology. With adequate digital technology capacity, institutions can offer learners a suitable digital environment, which strongly supports

the enhancement of students' digital skills (Scottish Government, 2016). The second issue is the need for attention to the nature of the curriculum design, as a curriculum design that promotes digital usage across the whole training course is the most suitable for the development of digital skills of students (Diana et al., 2016). Critically, solving these two issues is often the difficulty to many educational institutions worldwide. Although the constructed theories (Diana et al., 2016; Rouvrais et al., 2020) suggested the cooperation between the university and industry as the feasible approach to solve the lack of technology at the educational campuses, the obsolete technologies still lead to the hinderance of the development of digital skills to learners (Devaux et al., 2017).

In Vietnam, similar to other nations, the Vietnamese central government released the Educational Management Innovation strategy, understanding the vital role of digital skills in the success of work, study, and entertainment of its people. The strategy aims to boost various kinds of digital skills in students, such as information technology, internet usage, e-communication, and the ability to operate essential digital tools to improve life standards further (Pham & Nguyen, 2020). In line with the series of plans for educational reform for social-economic development, which is called Doi Moi (Prime Minister of Government, 1997; Duggan, 2001), the guidance on curriculum innovation for higher institutions around the nation has been provided with a focus on market orientation. Due to the recent evaluation of the need for a market force in digital skills (World Bank, 2021), higher institutions in Vietnam have included the training of various digital skills in the curriculum design to better assist and enable students to develop digital competency (Nguyen & Anita, 2021). However, the concern on the curriculum design is not enough to assist learners to improve digital skills sufficiently, as higher institutions in Vietnam have encountered a severe lack of digital technology on their campuses (Phung, 2021). To better solve this issue, many higher institutions have been collaborating with the industry to bridge the gap in market demands and solve the lack of technology in higher institutes by sharing technology from the industry (Hoc & Trong, 2019). For instance, on July 4th, 2018, Hanoi University of Science and Technology and SAP Corp from Germany signed a contract for collaboration in the development and enhancement of digital skills.

Well-constructed theories on university-industry collaboration (UIC), as reported Dunbar (2013), Wallin et al. (2014), and Jiboku and Akpan (2019), have proven that learners can enormously enhance their competencies through UIC programs or projects that prioritize students as the key beneficiaries. Theories on UIC also suggest that internships are a key program under the UIC approach, which can bring significant benefits to learners (Ankrah & AL-Tabbaa, 2015). This nature of UIC is not exclusive to developing nations, including Vietnam. Proper studies, such as the one conducted by Nguyen and Nguyen (2020), as an example, which focus intensively on UIC in the context of Vietnam, are in line with other existing theories on this topic, proving the vital role of internships in the development of students' competencies under UIC.

However, since the central government released the first policy on teaching IT in educational institutions in 2007 (Pham & Nguyen, 2020), there has been a shortage of evidence and often unclear information on the approach of higher educational institutions in designing internships with an intensive focus on developing learners' digital skills. It is possible that higher institutions in Vietnam have not sufficiently and professionally focused on internship designs to help students scale up their digital skills. This study aimed to shed light on the strategies that higher institutions in Vietnam have implemented in their internship designs to enhance students' digital skills. To achieve this aim, the study developed two research questions that were used to guide the research design for practical activities and the interpretation of findings.

1. How important are digital skills in the objectives of internship designs in higher institutions in Vietnam?
2. What are the strategies that higher institutions in Vietnam have applied to design the internships for the development of digital skills of learners?

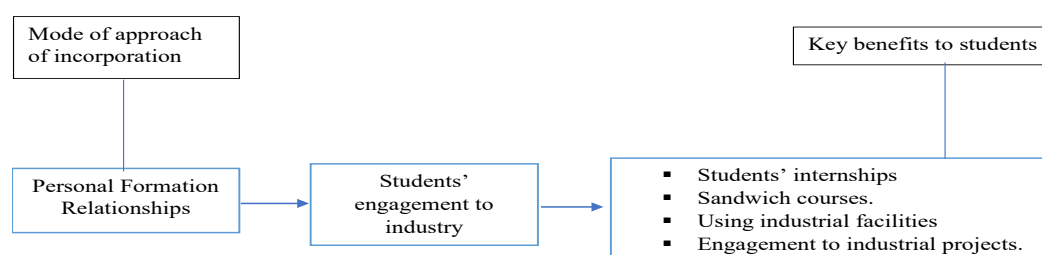
Literature Review

Internships as University and Industry Cooperation for Students' Benefits

The notion of cooperation between universities and industry (UIC) is said to have originated in the early 18th century (Borrell-Damian, 2009). Since then, it has become a popular educational trend in recent decades (Behrens & Gray, 2001). The concept of UIC has been widely adopted across nations, including both developed nations (Gertner et al., 2011; Lee & Win, 2004; Lehrer et al., 2009; Woolgar, 2007) and developing nations (Mgonja, 2017; Jonbekova et al., 2020). The widespread application of UIC is driven by its value-added benefits, particularly in terms of technology sharing and collaborative development between academia and industry for the benefit of various stakeholders (Bekkers & Bodas-Freitas, 2008). Based on this purpose, UIC can bring benefits to multiple stakeholders, including industrial staff, higher education staff, and students (Antonia et al., 2021; Franco et al., 2019; Laursen et al., 2011; Plewa et al., 2015). Regarding students' benefits, UIC focuses on the design of internship programs aimed at enhancing students' employability and employment prospects. Through these programs, students are exposed to technical competencies and other skill sets that meet market demands (Bernarte, 2014; Chang & Chu, 2009). A well-organized internship can potentially help students make progress and improvements in specific domain competencies, increasing their employment possibilities (Afonso et al., 2012) while also enhancing their learning motivation and satisfaction (Stansbie et al., 2013).

Figure 1

Students' Benefits for Having UIC (Ankrah and AL-Tabbaa (2015))



Internships' Design for Students' Development in Digital Skills

Taking internships into consideration in curriculum design can bring various benefits to students (Busby & Gibson, 2010; Busby, 2005; Gibson & Busby, 2009). Generally, an internship is an industrial-based activity in which higher education students experience real tasks in a working environment within a scheduled timeframe (Anjum, 2020). It is described as a one-time service experience with the primary objective of preparing students for their careers (Koc et al., 2019). According to literature, well-organized internship programs can cover approximately 80% of the tasks that students learn in universities (Marsono et al., 2017). An effective internship can enhance students' employability by providing them with an opportunity to familiarize themselves with workplace tasks and further strengthen their competencies (Thiyazan & Kamal, 2021).

Like the development nature of other skills, higher institutions can offer their students an opportunity to improve their digital competency through internship programs (European Commission, 2017; Patrick, 2019). However, the existing literature does not provide specific evidence regarding the design of internships for the explicit purpose of developing digital skills

in students. When it comes to competency development, the design of internships to enhance digital skills is not expected to differ significantly from other skills. The general approach to designing an effective internship for competency development is to consider various input elements (Ramadhani & Rahayu, 2020). The input should encompass all the essential elements necessary for the success of the internship program in helping students enhance their digital competency. These key elements should include the relevance of the competency to curriculum training objectives and the real working environment, students' characteristics, and the involvement of multiple stakeholders during the internships.

Important Elements in Consideration for Effective Internships

To ensure the success of students' development in internships and the acquisition of expected skills, it is essential to implement suitable design strategies. Firstly, it is worth noting that curriculum design is the core element for the success of internships (Abuhusain et al., 2009; Ramadhani & Rahayu, 2020). If the curriculum can equip students with the fundamental knowledge and skills relevant to real market demands, students are more likely to develop their competency sufficiently during the internship. Secondly, the activities carried out by multiple stakeholders during the implementation of internships are vital for assisting students in skill development (Phoebe, 2010; Sudiyatno et al., 2020). All stakeholders involved, including students, industrial staff, and faculty members, should be engaged and follow specific regulations to ensure their activities support the internships. Therefore, it is crucial for all stakeholders to receive sufficient information about internships (Purnomo et al., 2020). Thirdly, it is essential to consider the nature of tasks assigned to intern students to ensure they benefit from them (Phoebe, 2010). The tasks and work undertaken by students during the internships should support the development of their expected skills; otherwise, they may fail to enhance their skills during the internship. Finally, great attention should be paid to students' characteristics for the success of internships (Phoebe, 2010; Ramadhani & Rahayu, 2020). Various personal characteristics of students can potentially affect their success in improving during internships. Key factors include self-knowledge, basic competency, self-regulation, and effort in learning.

Demand for Vietnamese Higher Education in Cultivating Digital Skills to Students

The Doi Moi reform, which began in 1986, aimed to modernize the educational system to meet the demands of the labor market (Duggan, 2001). Specifically, the reform emphasized that education and training should focus on socio-economic development, and training programs should consider the social needs of the time to provide effective solutions for social development policies (Prime Minister of Government, 1997). In order to achieve the objectives of the reform, higher education institutions have conducted a critical assessment of the market demands (Tri & Nhe, 2021). This assessment has revealed the urgent need for higher institutions to produce graduates equipped with various digital skills (Pham & Nguyen, 2020). In addition to cultivating digital skills within their settings, higher institutions also collaborate with the industry, placing special emphasis on internships to enable students to develop the necessary skills, particularly in the digital domain (Bilsland et al., 2014; Bilsland & Nagy, 2015).

Research Methodology

Approach

This present study employed a qualitative approach as the research design, which allows researchers to gain a comprehensive understanding of the contexts and participants' experiences (Teherani et al., 2015). Instead of using a quantitative approach, qualitative design is suitable to this study, as it allows the researcher to gain an in-depth understanding of the elements surrounding the learning issue, with the ability to explain the nature of phenomena in the cohort of “how” and “why” (Cleland, 2017). Hence, with the purpose of gaining insights into the strategies for designing effective internships for students' development on digital skills, a qualitative method was suitable to seek the information to answer the research questions.

Instrument and Data Sources

This study utilized documents and interview protocols as the primary sources of data. The documents used included the curriculum framework, curriculum objectives, and internship designs of two selected departments at a university in Vietnam, from 2015 to 2021. These documents were considered important as they provided critical background information relevant to the study's context (Bowen, 2009). Semi-structured interviews were the main data collection instrument used. These interviews provided a balance between allowing participants to freely express their perspectives while maintaining some level of control to ensure accurate answers (Jamshed, 2014; Magaldi & Berler, 2020). The semi-structured format was chosen as it allowed for the exploration of the participants' viewpoints on the research objectives. Additionally, this format enabled the interviewers to restate or clarify respondents' viewpoints through follow-up questions (Kajornboon, 2004).

Location

The study was conducted at a renowned agricultural university in the southern part of Vietnam, which is known for its innovative approach and support for the nation's innovation movement. The university is recognized for promoting curriculum and teaching innovations in line with market demands (Le et al., 2022; Hoang et al., 2023). Also, it is experiencing rapid growth and offers a range of innovative programs that integrate digital technology into teaching and learning. It provides 30 programs across 15 faculties, including the Faculty of Agronomy and the Faculty of Fisheries, among others, to ensure students acquire the necessary skills to meet market demands in various fields.

Participants

In this study, purposive sampling was employed using a non-probability sampling method (Campbell et al., 2020). This approach was chosen to select participants based on their professional expertise, ensuring that they could provide valuable insights related to the research questions (Yin, 2011, pp. 93-96). Six staff members from two departments, namely Aquaculture-Seafood Science and Agronomy from the selected university, were recruited for the study. Prior to their involvement, their consent to participate in the study was obtained to adhere to ethical guidelines. The selection criteria for participants included: (1) their involvement in curriculum and internship design between 2015 and 2021, (2) their understanding of the significance of digital skills in curriculum and internship objectives, and (3) their clear comprehension of the strategies employed in designing internship programs to enhance students' digital skills. The

recruited participants included deans, vice-deans, and program chairs. The majority of them had over 15 years of experience in curriculum and internship design, while two participants had 5 or 6 years of experience. On average, the participants had 13 years of professional experience in the field.

Table 1
Overview of the Demographic Information of the Participants

Participants	Gender	Departments	Experience-years in internships' design
Staff 1	Male	Aqua-Seafood	20 years
Staff 2	Male	Aqua-Seafood	16 years
Staff 3	Male	Aqua-Seafood	15 years
Staff 4	Male	Agronomy	16 years
Staff 5	Female	Agronomy	6 years
Staff 6	Male	Agronomy	5 years

Data Collection

The research process began by sending invitation letters to three departments at the selected university: Agronomy, Aquaculture-Seafood Science, and Food Science. The researcher sought access and acceptance to conduct the study in these departments. To comply with the requirements of the university, the researcher contacted the International Relations Office (IRO) of the selected university to obtain approval for conducting the study on campus.

After receiving approval from the IRO in December 2021, the researcher sent invitation letters, along with the study objectives and a list of interview questions, to the three selected departments. In late January 2022, responses were received from all the departments. The Department of Food Science declined to participate, while the heads of two departments, Aquaculture-Seafood Science and Agronomy, agreed to appoint staff members to take part in the research, based on the provided criteria. The Department of Aquaculture-seafood Science had a total of 5 staff, but only three staff members met the criteria settled. Similarly, in the department of agronomy, only three staff members satisfied the settled criteria, among the total of 5 staff. Hence, in the end, the researcher obtained a total of six potential candidates. After sending the consent informed form to all candidates to sign to get their full consensuses to join the study, the researchers and candidates discussed the suitable times and places for the interviews.

On February 5th, 2022, the first interview was conducted with the first participant and by 15 March, the last interview was carried out to close the data collection procedure. All the interviews were conducted in the form of online, via Zoom, with a face-to-face approach. Also, all the interviews were recorded with the participants' agreement to aid in the coding process. Each interview took approximately 60 minutes.

Table 2

Overview of the Sources of Data Collected

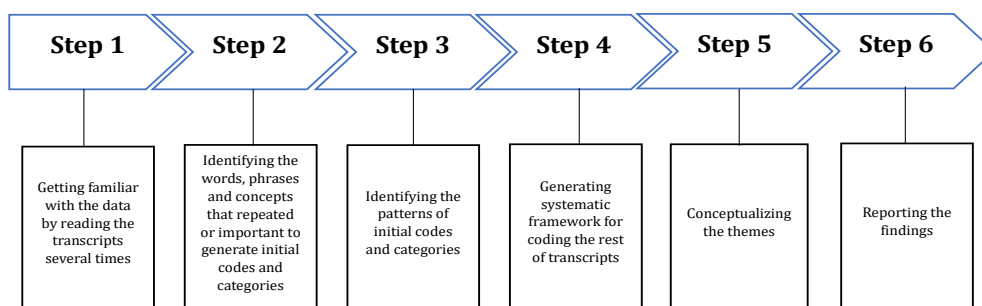
Departments	Interviews	Documents
Aqua-Seafood	Staff ($n = 3$)	Documents related to the curriculum objectives and internship program's design (2015-2021)
Agronomy	Staff ($n = 3$)	Documents related to the curriculum objectives and internship program's design (2015-2021)
Total 6		

Data Analysis

There are two techniques for the data analysis. For the documents, qualitative content analysis was applied to analyze the documents (Kohlbacher, 2006). While, on the other hand, for the recorded interviews, they were all transcribed into Vietnamese, and then were translated into English by the author before they were processed through the thematic coding process. The coding process followed six stages, as outlined by Braun and Clarke (2006): becoming familiar with the data, creating initial codes, identifying themes, reviewing and refining the themes, defining the themes, and presenting the findings as indicated in Figure 2. To facilitate the coding process, the MAXQDA, a qualitative data analysis software was used. In the first stage, the researchers became familiar with the data by carefully reading the transcripts multiple times. From this process, they generated initial codes and categories by identifying similar ideas or phrases in the transcripts. These codes and categories were then organized to create a systematic framework, which served as a guide for coding the remaining transcripts. As the coding process progressed, the researchers continuously reviewed and refined the themes to ensure accuracy and consistency. Irrelevant phrases were eliminated during this stage. Once the coding process was completed, the researchers extracted the codes and sorted them into their respective categories and themes. The final framework of themes was conceptualized, and appropriate headings were assigned. The researchers used the coded data to interpret the findings of the study.

Figure 2

Procedure of the Thematic Coding for Data Analysis



Trustworthiness

The study ensured various elements of trustworthiness, as suggested by Nowell et al. (2017). Credibility was achieved by employing appropriate data collection methods and recruiting qualified participants. Purposive sampling was predominantly utilized to select staff members with specialized knowledge relevant to the research questions, and stringent criteria were established to ensure the inclusion of highly qualified participants. Furthermore, as the study solely relied on semi-structured interviews for data collection, a comprehensive list of interview questions was developed under the guidance of experts. Trial interviews were conducted, and modifications were made to the questions before the actual interviews. The findings of this study, which focused on internship design strategies in the context of Vietnam as a developing nation, hold significant value due to their high applicability and transferability to stakeholders in developing nations worldwide. Moreover, confirmability was upheld through a meticulous coding process, and external experts examined and validated the themes and categories derived from the analysis before interpreting the findings (Nowell et al., 2017).

Ethical Considerations

In this study, the name of the university is hindered from the text upon the request of the heads of the selected departments. Also, the names of all participants and their working positions were ignored to be mentioned in the text. These actions were to uphold the basic principle of the qualitative approach, with a specific contract between the researcher and participants.

Research Results

Digital Skills on the Objectives of Internship Designs

The themes for this research question highlighted the vital roles of training in digital skills in both internship and curriculum designs at the selected departments. Additionally, there is a need to consider the timing of when students undertake their internships.

Digital Skills in the Objective of Curriculum and Internship Designs

The obtained data revealed that training digital skills was one of the major objectives of the curriculum designs, the digital skills were classified into three main domains: information technology or informatics, communication technology, and generic foundation technology. Information technology and communication technology skills were trained throughout all courses with the assistance of teachers. On the other hand, generic foundation digital skills were mostly cultivated through practice in the laboratories.

In the period of 2015–2021, and continuing until the present time, we have placed great emphasis on the development of students' digital skills in the curriculum objectives. This focus aims to enable students to perform tasks in diverse demanding environments, including informatics, various communicative approaches using digital platforms, and the operation of modern digital technology. Students primarily acquire informatics and communication technology skills throughout the teaching and learning process, while also gaining generic foundation digital skills through training tasks in the laboratories... (Staff 2).

Concerning the internships' design, respondents said that digital skills were a major concern for the development of these skills in a practical working nature.

The internships are primarily concerned with the development of students in the practice of these skills...however, the attitude and the knowledge related to the training program are also a concern of the internship design... (Staff 6).

Structure of the internships in curriculum designs

The total time that Selected university students had to spend on internships was 3.5 months, and this time span included the time needed for two internship programs. Internship I was about 1.5 months, and Internship II was about 2 months.

At our department, students are highly required to undertake two internships, Internship I and Internship II. Internship I is required to be taken at the end of the first year, while Internship II is required to be taken at the end of the second year. The total time of internships - time that students must undertake should be about 3.5 months. Internship I is about 1.5 months long, and Internship II is for two months... (Staff 4).

It was also shown that there was no distinction in the intensification of the level of skills and knowledge of these two internships, as they were organized to offer students chances to familiarize themselves with a wide range of skills and knowledge related to the training programs.

Internship I and Internship II do not differ in terms of the level of practical experience. Internship I aims to familiarize students with skills and knowledge related to basic agronomy courses, such as farm management and irrigation systems. On the other hand, Internship II provides students with an opportunity to become acquainted with the operation of tools for specific purposes in agronomy, such as conducting soil quality assessments or evaluating the quality of fertilizers... (Staff 3).

Students are required to complete both Internship I and Internship II. These two internships are not distinct in terms of the level of skills and practical knowledge they provide. However, they collectively offer students opportunities to acquire skills and knowledge in seafood technology. While Internship I allows students to become familiar with the process of feeding aquatic species for consumption, Internship II offers them the chance to become acquainted with the seafood production process...(Staff 5).

Times for internships to be taken

Respondents have noted that between 2015 and 2021, there was a change in its internship strategy. During this period, students were required to complete Internship I and Internship II in their first and second academic years. This strategic shift aimed to gain insights into students' performance and development in digital skills, enabling the department to provide further assistance in enhancing their digital skills effectively.

We realized that postponing internships until the end of the training programs was not the most effective approach to support students in developing the expected skills. Therefore, we now require students to complete Internship I and Internship II in the first and second year. This adjustment in the timing of internships allows us to continue assisting students in enhancing their technology skills based on their performance outcomes during the internships... (Staff 3).

Strategies that Higher Institutions in Vietnam Have Enacted to Build up the Internships for Students to Take Enhancement of Digital Skills

Strategies for the Preparation of Pre-Internships

Curriculum designs

Based on the participants' responses, approximately 30% of the courses were found to provide students with knowledge and skills related to the use of technology. In these courses, students had the opportunity to integrate with the digital environment and utilize technology to enhance their foundational knowledge and digital skills.

About 30 percent of the total courses offered in our departments enable students to comprehend the fundamental usage of digital tools and equipment within the agronomy program. By completing these courses, students can become familiar with operating digital machinery at the internship sites... (Staff 1).

The respondents highlighted that digital competency was included as a significant objective in the curriculum designs. Moreover, the integration of the digital environment was implemented in each course to provide students with more contextual opportunities for developing their digital skills.

Every course provides students with the chance to enhance their IT skills. Teachers have been instructed to familiarize students with the usage of tools such as Excel, Microsoft Word, and PowerPoint. Additionally, digital platforms like Facebook and Zalo are utilized for group discussions. This enables students to engage with the basic digital environment, thereby assisting them in enhancing their practical digital competency... (Staff 4).

The respondents emphasized that curriculum designs aimed to equip students with the necessary knowledge and skills to operate digital tools and machines that are in demand in the Vietnamese labor market, in order to prevent students from being either overqualified or underqualified.

Our focus is on developing digital competency to meet the job competition in the current labor market of Vietnam. The courses offered in their setting provide students with the appropriate skills and knowledge in digital competency. This strategic approach ensures that students are neither overqualified nor underqualified in terms of digital competency, aligning with the market demand at the time of their graduation... (Staff 5).

Students' readiness

Respondents asserted that for successful internships, students were expected to be involved in preparation before the internships. Firstly, students were assisted in becoming aware of the importance of digital skills for their career effectiveness and advancement.

If students do not participate in the preparation, they might not be able to improve their digital skills during their internships. As a result, we always assist students in understanding the significance of digital technology in people's lives during the digital transformation. We also help them realize that without sufficient digital competency, they may struggle to perform well in the workplace and hinder their career progression... (Staff 2).

Secondly, respondents indicated that short-term courses were provided, typically lasting about one week, to equip students with workplace knowledge and strategies related to work-based learning.

Since internships are a form of work-based learning, the most effective way to assist students in enhancing their digital skills is by training them with appropriate strategies for work-based learning. Therefore, we offer students short-term training courses to help them grasp the key points of work-based learning strategies. These courses also provide students with workplace knowledge, including rules and regulations... (Staff 5).

Concerns about digital technology capacity at the industrial partners

All the respondents emphasized that the presence of digital equipment at the internship sites is crucial and has a significant impact on the success of students in developing their skills during their internships. Consequently, it is expected that industry partners have access to modern and up-to-date digital technology.

In our department, we are unable to provide the digital technology and machines necessary to support students' learning due to the rapid evolution of technology in the labor market. Therefore, we require companies interested in being our partners to be equipped with modern technology, with a particular emphasis on digital technology... (Staff 3).

Secondly, respondents claimed that industry partners are required to prepare jobs that help students experience the digital working environment.

The companies within our network of collaboration are required to prepare or offer jobs that allow our students to experience a digital working environment. The environment is diverse, so the jobs should provide students with opportunities to either become accustomed to IT skills and communication using digital tools or jobs that involve the operation of digital machines... (Staff 6).

Additionally, due to the limited number of industry partners, students are strongly encouraged to choose the companies they are interested in. However, it is essential that they select firms that meet the standard requirements for digital facilities and environmental conditions.

Given the limited number of partners who meet our requirements, we permit and encourage students to search for firms for their internships. However, the firms chosen by students must fulfill the standard requirements for digital facilities and provide a digital working environment suitable for the nature of the internships... (Staff 3).

Strategies for Having Sufficient Criteria for the Implementation of the Internships

Students' responsibilities

The respondents stated that the departments assist students in understanding the basic rules and regulations to help them cultivate the appropriate attitudes during their internships. As part of the short-term training courses, students are provided with information about the rules and regulations that apply when they participate in internship programs. The objective of this training is to equip students with the necessary knowledge and attitude required in the workplace... (Staff 1).

Furthermore, respondents emphasized that students are strongly urged to follow the instructions provided by their intern supervisors as it is crucial for assisting them in developing their digital skills adequately.

Internships are an integral part of the curriculum designed to cultivate students' expected skills and knowledge. Therefore, students receive evaluations based on their performance and development during the internship. It is also expected that students strictly adhere to the instructions and advice given by their supervisors, as the comments from supervisors can have a significant impact on the learning outcomes of the students... (Staff 5).

Intern instructors' roles

The respondents stated that qualified staff members were assigned as intern supervisors to guide students during their internships. These supervisors had multiple responsibilities. Firstly, they closely monitored the performance of students as they carried out tasks at the internship sites. Secondly, in cases of urgency, they acted as consultants or mentors for students, assisting them with any issues they encountered during their internships. Thirdly, the supervisors collaborated with the companies to discuss and assign suitable tasks to each intern, ensuring that they were on the right track to develop their digital competency.

We appoint staff members to act as intern supervisors for students during their internships. The supervisors' responsibilities include providing instructions and guidance to students regarding their performance during the internships. They also serve as the main point of contact for students in urgent situations. Additionally, the supervisors work directly with the companies to discuss and allocate appropriate tasks and responsibilities to each intern. It is expected that the supervisors will closely monitor and ensure that students have sufficient opportunities to develop their digital competency... (Staff 2).

Benefits to students during internships

The respondents emphasized that intern students would be highly motivated to excel in their internships if they were treated fairly. As a result, various provisions were included on the list of support for intern students, which are provided by industry partners. These provisions include standard working hours per day, adequate salary, and days off.

Given that the purpose of internships is to facilitate the development of students, companies interested in becoming our internship partners must agree to treat intern students with the same basic benefits that regular employees are entitled to. For instance, companies cannot compel interns to work more than 8 hours per day, and they should provide interns with a salary and allocate days off, just as they do for their regular employees... (Staff 5).

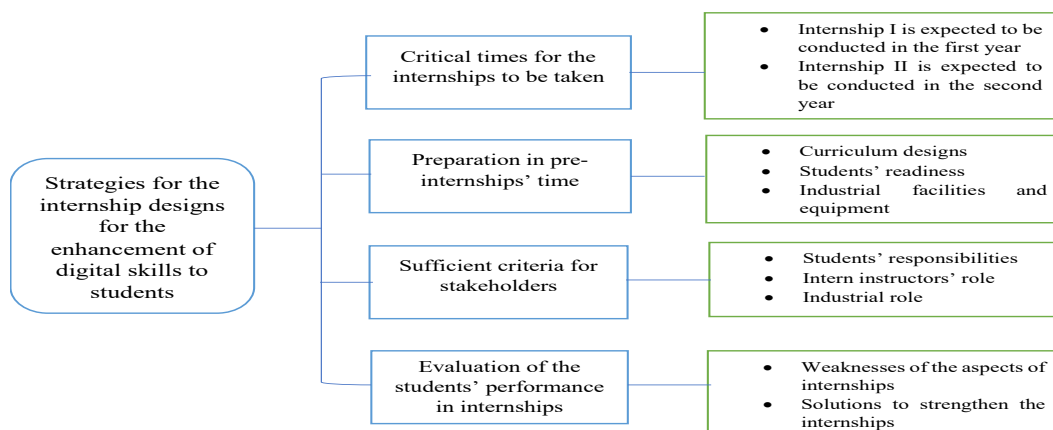
Evaluation of intern students' performance

The respondents highlighted that data evaluation concerning the performance of students during their internships was utilized to improve various aspects of the program. The main focus was on enhancing the curriculum design, the performance of intern supervisors, and the support from industry partners. The evaluation data for internships were collected from multiple stakeholders, including students, intern supervisors, and companies.

We conducted evaluations not only to identify weaknesses in the internship program but also to find solutions for addressing those weaknesses. Our primary concern during evaluations was to enhance the curriculum design and better prepare students for the challenging tasks in the professional world. We observed and collected data on the performance and ideas of students to develop improved procedures that would assist them in enhancing their digital skills. Our main focus during evaluations was to enhance the performance of intern supervisors and the support provided by industry partners, thereby fostering the development of interns' digital skills... (Staff 4).

Figure 3

The Summary of the Key Findings on the Strategies that Higher Institution in Vietnam Use to Design Internship for students' Digital Skills Development



Discussion

In recent decades, digitalization has gradually transformed various aspects of societal activities, including the educational sector. Among these transformations, the domain most affected by digitalization is the capacity for digital technology. Consequently, the enhancement of learners' digital skills is significantly impacted (Timotheou et al., 2022). To address the challenges arising from the lack of digital technology, there is a growing call for the utilization of internships as an effective approach to help higher education learners improve their digital skills (European Commission, 2017).

Similar to many higher education institutions in developing nations across the globe, institutions in Vietnam are also confronted with substantial difficulties in equipping their campuses with digital technology for teaching and learning purposes. The limited technology capacity has led these institutions to prioritize internships as a crucial method to facilitate learners in effectively enhancing their digital skills. The design of internships for developing digital skills bears a resemblance to that of cultivating other skills. The primary objective of internship design is to support skill development through practical tasks within an authentic working environment (Abuhusain et al., 2009; Akomaning, 2019; Boots et al., 2009; Nguyen & Nguyen, 2020).

The success of students in developing the desired skills during internships is significantly influenced by the clarity and comprehensiveness of the objectives outlined in the internship design (Tolboom & Van-Rooyen, 2021). Recognizing this, the departments at Selected University have placed great emphasis on designing internships that enable learners to enhance their digital skills. Scholars such as Abuhusain et al. (2009) and Ramadhani and Rahayu (2020) proposed that curriculum designs that align with the nature of internship tasks can effectively facilitate skill development. Accordingly, Selected University has integrated digital skills as a focal point in the curriculum designs of their training programs. At Selected University, digital skills are categorized into three domains: information technology, communication technology, and generic foundation digital skills. Information technology encompasses proficiency in utilizing software applications such as Excel, Microsoft Word, and PowerPoint. Additionally, it involves the ability to employ statistical software for data organization, analysis, and interpretation. Digital communication, another objective of the university, emphasizes learners' competence in utilizing various digital platforms such as emails, Zalo, Facebook, Zoom, Google Meet,

and forums for effective communication, information sharing, and research. Lastly, operational digital skills encompass the aptitude to proficiently operate digital tools and machines pertinent to the specific learning programs. The incorporation of these digital skill domains into the curriculum design objectives was informed by an evaluation of market needs, ensuring that students are adequately prepared to excel in the professional realm (Akomaning et al., 2011).

In addition to the focus on curriculum design, the preparation and collaboration among various stakeholders play a crucial role in the success of internships for developing learners' digital skills (Akomaning, 2019). Adequate pre-internship preparation is essential for achieving the desired skill development during internships (Abdelrahman et al., 2022). Selected university has recognized these principles and implemented comprehensive guidance for multiple stakeholders involved in internship activities, including higher institutions, industry partners, and students, to ensure effective preparation prior to student recruitment for internships. Regarding higher institutions, competition-based curricula have been adopted to align with the demands of the labor market (Abuhusain et al., 2009). Understanding the increasing importance of digital competency in the labor market, Selected university has made training students in digital skills a primary objective in the curriculum designs of its departments. This includes dedicating a specific percentage of courses to develop students' proficiency in using digital tools and machines. Moreover, information and communication technology skills are integrated throughout the entire learning program with the guidance of teachers (Kieu, 2022). The university's laboratories are also equipped with digital technology tools and devices that resemble those used in industry firms in Vietnam. This strategy aims to ensure that students are well-prepared to effectively carry out tasks in the workplace during their internships (Anjum, 2020; Ramadhani & Rahayu, 2020).

In addition to the readiness of students, various approaches were carried out to assist learners in adequately preparing for their internships and enhancing their digital skills. One approach focused on teaching and learning activities, aiming to raise students' awareness of the importance of digital skills. This initiative significantly increased learners' motivation to develop their digital skills, aligning with the rapid digitalization happening in the country (Pham et al., 2021). Short-term preparatory courses, lasting approximately one week, were also provided to students. These courses aimed to provide them with valuable information on how to enhance their skills and knowledge during their internships. However, it's important to note that these short-term courses did not provide students with simulated experiences of real working environments, as recommended in the study by Laack et al. (2010). Furthermore, Selected university established criteria for companies interested in becoming internship partners. These criteria ensured that applying companies or firms were equipped with sufficient digital technology and facilities to be eligible as internship partners. The primary demand from industry partners was to offer students a digital working environment that would best facilitate the improvement of their digital skills (Adeosun et al., 2022). This demand was also taken into consideration when students selected the companies for their limited participation in the internship programs.

To ensure that students can effectively develop their digital skills during their internships, Selected University established various criteria and regulations for multiple stakeholders involved in the internships. Students were strictly instructed to acquire knowledge and adopt appropriate workplace attitudes to adhere to the regulations of the intern companies, including workplace rules, communication etiquette, and effective task performance strategies (Simelane et al., 2021). Similar to other reputable universities like RMIT University, Selected University assigned instructors to interns to enhance the quality of the internships (Bilsland & Nagy, 2015). These intern instructors collaborated with industry partner staff to discuss tasks for each intern and also served as consultants or mentors to students facing challenges during their internships (Marsono et al., 2017). While this study's findings had limitations in assessing the

continuous skill and knowledge updates of Selected University's intern instructors to effectively assist students in their internship development (Stephens, 2011), it is expected that Selected University's intern instructors possess sufficient skills and knowledge based on the evaluation of internship data. Recognizing the role of a basic wage in motivating students' performance during internships, Selected University's departments required industry partners to provide intern students with fundamental benefits, as the internships organized and designed by Selected University were not unpaid (Rothschild & Rothschild, 2020). For paid internships, the basic required benefits were similar to those provided to regular employees. These included providing clear instructions for assigned tasks to intern students, assisting students with accommodation, ensuring intern students work standard hours per day, and providing a basic salary and holidays to intern students (Marsono et al., 2017).

To address the weaknesses of the internships more effectively, the departments of the Selected university conducted yearly evaluations of the internship programs. The evaluation data were obtained through reports from multiple stakeholders, including the intern students, intern supervisors, and the companies. The departments of selected agricultural universities provided proper guidance for the reports, including a specific format to ensure clear information from both students and companies. Various agenda items were included in the evaluation process to drive improvements based on the evaluation results. However, the primary concerns in evaluating the development of digital competency at selected departments focused on enhancing curriculum design, improving the quality of intern instructors, and enhancing the quality of the internship environment (Amer & Ismail, 2014).

Conclusions and Recommendations

With a qualitative approach and utilizing documents related to internship design, this study conducted semi-structured interviews to gather perspectives from six policymakers representing two departments, Aquaculture-Seafood Science and Agronomy, at selected universities. The objective was to understand their strategies in developing internships and enhancing students' digital skills. The study's findings demonstrate that digital skills are a major focus in the curriculum designs of higher institutions in Vietnam. Various digital skills, such as informatics, communication, and proficiency in operating digital tools and machines. The purpose of internships was to practically enhance these digital skills and other competencies of students. To effectively improve students' digital skills during internships, recommended strategies include designing curricula that allow practical development in a working environment and evaluating the digital equipment and tasks offered by industry partners before collaboration. Additionally, intern supervisors play a crucial role in monitoring and supporting students' progress in developing their digital skills.

Based on the findings, this study offers practical applications for multiple stakeholders. Firstly, other higher institutions in Vietnam or developing countries can use the findings as guidance to enhance their curriculum and internship designs, facilitating students' development of digital skills to prepare them for the job market. Secondly, students worldwide can utilize this study to enhance their readiness, focusing on increasing their motivation and implementing work-based strategies during internships. The study provides valuable information for companies interested in collaborating with higher institutions, emphasizing the importance of supporting students' digital skill development and preparing their digital infrastructure for successful partnerships.

However, it's important to note that this study relied on a qualitative approach with specific research objectives, and as such, it did not test the effectiveness of the strategies discussed. Therefore, further evaluation of the quality of internship designs in higher institutions is recommended, including assessing the probability of skill development among students

during internships. The study also acknowledges the vital role of intern supervisors in students' success in skill development during internships, but it does not provide detailed information on their specific duties. Thus, further discussions on the roles of intern supervisors in effectively enhancing students' skills during internships are suggested.

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Quan Thuan Kieu

Doctoral Degree Major in Educational Evaluation at Faculty of Education, Chiang Mai University, 239 Huaykew Rd, muang, Chiang Mai, Thailand.
E-mail: thuankqt@gmail.com
ORCID: <https://orcid.org/0000-0003-4922-2416>



EDUCATIONAL PRACTITIONERS' ATTITUDES TOWARDS CHANGE: CHALLENGES AND OPPORTUNITIES FOR IMPLEMENTING THE MODEL "SCHOOL AS A LEARNING ORGANISATION" IN GENERAL EDUCATION INSTITUTIONS IN LATVIA

Agnese Lastovska, Svetlana Surikova, Gunta Siliņa-Jasjukeviča

E-mail: agnese.slisane@gmail.com, svetlana.surikova@lu.lv,
gunta.silina-jasjukevica@lu.lv
University of Latvia, Latvia

Inese Lūsēna-Ezera

Liepāja University, Latvia
E-mail: inese.lusena-ezera@liepu.lv

Abstract

In contemporary society, constant dynamic change presents a challenge that should be perceived as a determinant factor leading to progress. The aim of this study was to explore the extent to which educational practitioners in general education institutions in Latvia are prepared for change. Additionally, the study seeks to identify the main enabling factors and obstacles in implementing the "School as a Learning Organisation" (SLO) model in general education in Latvia. That was achieved through quantitative data analysis from various perspectives, such as comparing data based on the type and size of educational institutions, as well as the positions and seniority of employees. Research data were collected using a web-based survey designed and maintained through QuestionPro. The final analytic sample comprised 671 respondents from 62 general education institutions in Latvia. The research results revealed that educational practitioners in Latvia, including leading, teaching, and supporting staff from general education institutions, are open to changes, new practices, and innovations. However, there were exceptions influenced by the educational practitioners' seniority and position, institution size, and type. These factors could both positively and negatively predict employees' attitudes towards change. A positive attitude towards change among teaching staff is a crucial element for the successful implementation of educational reforms in Latvia, such as the adoption of the SLO model. To foster a positive organizational culture, school leaders must provide supportive and transformative leadership, which is crucial for employees' positive attitude towards change.

Keywords: attitude towards change, influencing factors, general education, innovations in education, school as a learning organisation

Introduction

In the contemporary, ever-changing global landscape, the predominant notion is that uncertainty remains an enduring constant. However, the ability to navigate this uncertainty

is fortified by qualities like flexibility, collaboration, a positive attitude towards change, and openness to new ideas, practices, and innovations. These qualities extend their influence across various spheres of life, with education being an integral part of this paradigm. A study (Busemeyer et al., 2018) has emphasised that European citizens consider education to be a top government policy priority and are surprisingly open to numerous reform initiatives.

Tura and Akbasli (2022) have researched that educational changes, such as reforms, new practices, and innovations, hold significant importance for educational institutions, enabling them to thrive in the changing global landscape and remain competitive amidst other entities. This is a comprehensive process that encompasses idea generation, support, implementation, dissemination, and the fostering of innovative work behaviours. Given that each phase of the innovation journey within educational organisations relies on the contributions of teachers and the broader school community, assessing their motivation to engage in innovation and identifying the factors influencing these motivations becomes a crucial factor in ensuring both organisational innovation within the education sector and innovation within the education system as a whole (Tura & Akbasli, 2022).

Traditionally, it is considered that there are two approaches to educational change (innovation): a top-down approach and a bottom-up approach (Barakat, 2019). However, due to the lack of educational practitioners' positive attitude towards change moderated by the implementation of a top-down approach based on centralization, many educational reforms and innovations worldwide are unlikely to be implemented coherently and therefore do not lead to profound and sustainable change (Barakat, 2019; Constantinescu, 2015; Hübner et al., 2021).

Research Problem

The concept of the "School as a Learning Organisation" (SLO) holds significant influence, guiding and shaping school improvement practices within various countries, both presently and in the past. The initial evidence pertaining to the interplay between leadership and organisational learning has its origins in the realms of research on school effectiveness and improvement (Harris & Jones, 2018). Teachers hold a pivotal role in fulfilling the school's mission. The concept of teachers as learning leaders lies at the core of the understanding of teacher quality, as derived from empirical evidence. Teachers must actively engage in their personal learning journeys while simultaneously guiding the learning of their students and peers. However, a significant amount of time, effort, and resources must be dedicated to transforming any school into a genuinely sustainable SLO. It is imperative to establish unified, coherent, and cooperative endeavours among employees at all hierarchical levels. These joint efforts are vital for securing and maintaining the cultural transformations that define an active and authentic learning community (Fullan, 2018). Consequently, the influential and potentially transformative concept of the SLO is at risk of losing its impact if there is a lack of collective commitment, collaborative action, willingness to take associated risks, and substantial changes needed for the school to genuinely embody a learning organisation. To prevent the concept from becoming merely a passing trend, leaders at all levels within schools must make it their shared aspiration, central purpose, and collective focal point for driving school improvement (Harris & Jones, 2018).

However, attempting to initiate change can result in either a positive or negative impact on attitudes and productivity. Within such intricate contexts, a notable proportion of change endeavours face setbacks, which serves as the main driving force behind adopting a novel and thorough theoretical approach to the complexities (Robinson, 2019). Aspiring to embody the SLO differs from actually achieving that status. Embracing the concept of the SLO in a sincere manner inevitably leads to disruptive changes. Learning devoid of change not only contradicts itself but also proves futile if substantial organisational enhancement is the true ultimate goal.

As a result, unless there is a joint commitment, collaborative efforts, a willingness to take associated risks, and profound alterations essential for the school's genuine transformation into an SLO, this impactful and potentially revolutionary notion risks losing its essence. Going beyond being just a passing trend, the notion of SLO must be the collective aspiration, the fundamental purpose, and the united focal point for school advancement among leaders at all levels within educational institutions (Harris & Jones, 2018).

Educational practitioners, especially teaching staff, as the main recipients of change, should become change agents to promote transformations (e.g., educational reforms, new practices, innovations) at all levels of society (Constantinescu, 2015; Hübner et al., 2021). There is limited research on educational practitioners' attitudes towards change, their resistance to change, or openness to new ideas, practices, and innovations, which may be crucial to the successful implementation of educational reforms. Without persuaded and committed change agents, educational reforms are unlikely to be implemented coherently and, in turn, are unlikely to be successful (Barakat, 2019; Hübner et al., 2021; Ibrahim & Aljneibi, 2022). The research problem of the current study highlights the core objective of education, which is to equip students with essential competencies, academic knowledge, and skills necessary to prepare them for the labour market, thereby enhancing their competitiveness by implementing the SLO model in general education in Latvia. Failing to address and incorporate the necessary changes, while neglecting external influences, can impede the progress of educational institutions and hinder student achievement.

Research Focus

Educational practitioners involved in situations of change may either implement or resist it, depending on various external and internal factors (Barakat, 2019; Constantinescu, 2015; Ibrahim & Aljneibi, 2022; Johnson et al., 2017; Hübner et al., 2021; Korhonen et al., 2023; Monteiro et al., 2020). The initial aspect explored was the impact of job position on the inclination to embrace and execute workplace changes. Constantinescu's (2015) study among Romanian teachers measured attitudes towards change and found that 25% of participants were resistant to change and adopted a neutral stance, 3.8% refused change out of ignorance, while 70.2% had been aware of its importance from the very beginning. Hübner et al. (2021) have discovered that German teachers' motivation and perceived added value for themselves and school development positively predicted their rating of educational reforms. Johnson et al. (2017) found that US educators who held more positive views of both principal's support and teacher's affiliation (i.e., the level of connectedness and collaboration amongst teachers) reported greater efficacy and openness to adopting new practices. Towers et al. (2022) have examined teachers' perceptions of reforms in secondary education in England and have presented evidence regarding teachers' unfavourable attitudes regarding the reforms and concerns about remaining in the teaching profession.

Researched studies (Fullan, 2015; Gemmink et al., 2020; Tura & Akbasli, 2022) have suggested that teachers' involvement in formulating the school's vision and decisions regarding education and training have significantly influenced their adoption of innovative teaching methods. This engagement acts as a catalyst, reinforcing individual factors that teachers recognize as crucial for embracing innovative practices (Tura & Akbasli, 2022). Promoting innovation within the school climate has been found to encourage the implementation of innovative and creative teaching approaches. Organisational climate and culture encompass characteristics that influence employee behaviours, shape the organisation's identity, and are perceived by its workforce (Hübner et al., 2021; Johnson et al., 2017; Räsänen et al., 2022; Towers et al., 2022).

Barakat (2019) has analysed educational leaders' views on contemporary reform initiatives in Egypt and has concluded that the limited success of educational reforms could be attributed to several reasons. These reasons include a centralised educational system that lacks transparency, adaptability and willingness to embrace change. Additionally, stakeholders failed to recognize "the value and relevance of foreign-donor-driven reforms, which also lacked consistent evaluation" (p. 346). School leaders play a pivotal role in determining institutional priorities and influencing teachers' attitudes towards change and new practices. Schools with leadership personnel characterised by optimism, support, and a transformative approach tend to view educational changes (such as reforms and innovations) more positively (Johnson et al., 2017; Hübner et al., 2021; Towers et al., 2022).

Meyers and Hitt (2017) have suggested that the leadership staff should make an effort to understand teachers' viewpoints and engage with them on their terms, openly expressing trust in their professional abilities. Tura and Akbasli (2022) have emphasised that creating an environment conducive to innovative practices in schools is the responsibility of the school's leadership staff; therefore, it is essential to ensure that these administrators receive appropriate training to cultivate leadership behaviours rooted in innovation. In this context, it is imperative for school leaders to collaborate with stakeholders to reinforce individual traits that prove effective in teachers' innovative practices. Additionally, they should establish organisational conditions that promote the emergence of fresh ideas and practices. To achieve this, school leaders should primarily focus their efforts on teachers, ensuring they receive the necessary support (Johnson et al., 2017; Hübner et al., 2021; Räsänen et al., 2022; Sezgin & Sonmez, 2017; Towers et al., 2022; Tura & Akbasli, 2022). School leaders must possess the capability to support their staff, assisting them in navigating change through transparent and democratic approaches. Additionally, they bear the responsibility of directing resources towards bolstering the health and well-being of their personnel, especially when policy requirements are mandated (Towers et al., 2022).

Subsequently, the literature on how age and length of work experience (seniority) impact educational practitioners' inclination to adopt change was examined. On one hand, Ibrahim and Aljneibi (2022) have emphasised that committed teachers, including organisational commitment and commitment to teaching, play a vital role in implementing educational reforms. Their study has revealed that teacher commitment increases with age, length of work experience, and tenure at the same school, e.g., teachers of over 50 years and with over 15 years of teaching experience and over than 10 years staying at the same school were the most committed in comparison with other age and experience groups. On the other hand, recent studies (Camino, 2021; Hübner et al., 2021) have discovered that as teachers accumulate more experience in the profession, they tend to become less open, less receptive, and less willing to embrace new practices and experiences. Hübner et al. (2021) have found that age has a negative effect on the evaluation of education reforms as older and more experienced teachers tended to rate the reforms less favourably. This finding aligns with previous studies conducted by Donellan and Lucas (2011), Constantinescu (2015), and Johnson et al. (2017). For instance, Constantinescu (2015) observed that voluntary involvement in change-related initiatives was more common among younger teachers (25-35 years old), while older teachers (40+ years old) showed resistance to change. Johnson et al. (2017) noted that teachers with the most experience (≥ 9 years) reported less openness to adopting new practices compared to those with fewer years of experience (≤ 8 years). As individuals age, they tend to grow more attached to long-held practices, often viewing things through the lens of past experiences. Notably, teachers with one to five years of teaching experience place a high value on the sense of accomplishment, in contrast to those with six to fifteen years or sixteen and more years of teaching experience (Camino, 2021). This sense of accomplishment seems to be rooted in openness to new experiences (Nieß & Zacher, 2015), which tends to diminish over time (Camino, 2021). While novice teachers demonstrate

significant professional growth during the first five to seven years of their teaching career, they are also more prone to stress and disruption than experienced teachers (Gavish & Friedman, 2010; Goddard et al., 2013). Furthermore, experienced teachers are less inclined to leave the profession as quickly as novices (Towers et al., 2022).

According to OECD studies (OECD, 2019a, 2019b, 2020), the average age of teachers in OECD countries is 44 years, and in several countries the teaching workforce has been ageing over the last 5-10 years. The study "Age and Innovativeness: Effects of teachers' age on perception of school innovativeness" (Sánchez Ruíz, 2021) utilised data from the OECD TALIS 2018 Survey (OECD, 2019b, 2020) to explore the link between age and innovativeness of teachers. Innovativeness here refers to the degree to which teachers within a school are receptive to new ideas and proactive in adopting innovative practices. It was observed that the average age of teachers within a school had a modest to moderately negative impact on the perception of teachers' innovativeness. These findings indicate that belonging to a school with a higher average age of teachers noticeably diminished individual perceptions of teacher innovativeness in a large number of countries (29 out of 48), even after accounting for the individual influence of teachers' age. Assuming that evaluations of teachers are considerably objective, it becomes plausible that older teachers might display a diminished inclination towards innovation, possibly due to their reduced readiness to embrace new and unconventional methods. This line of reasoning aligns with the findings of Goodson et al. (2006), who discovered that teachers' readiness to adopt innovative practices often decreases with age and experience.

Creativity and innovation empower individuals to explore various facets of a problem or issue and generate entirely new and interesting solutions (Schwarz, 2015). Although educators may hold diverse perspectives on creativity, recent research studies (Davis, 2018; Camino, 2021) consistently demonstrate its effectiveness when applied to the teaching and learning process.

Subsequently, previous research on the influence of school size (student population) on school staff attitudes towards change (innovation) was explored. Chang and colleagues (2011) noted that educators in institutions offering 31–60 classes exhibited superior scores in assessments of creative teaching in comparison to their counterparts in schools with 10 or fewer classes. In other words, medium and large schools appeared to foster creative teaching by promoting collaborative conversations and peer assistance, while smaller schools exhibited a lesser inclination towards these practices. It is obvious that there could be significant differences in the climate for innovation in the organisation between schools of different sizes. Medium and large-sized schools (with 31-60 classes) scored higher on organisational leadership and peer support than schools with ten or fewer classes. This suggests that medium and large-sized schools are more effective in promoting teachers' experiences of organisational leadership and colleague support. Hübner et al. (2021) estimated a negative coefficient for school size at high-track schools and found school size to be negatively related to the educational reform rating, highlighting slightly lower overall ratings at larger schools. Räsänen et al. (2022) found that school size predicted both cynicism towards the professional community and teacher-working environment fit concerning a constructive and enabling work climate. The lower the school population, the less likely teachers were to experience cynicism towards the professional community and the more likely they were to experience a good fit with respect to a constructive and enabling work climate. Results on the effect of school size on teacher burnout and turnover are partly contradictory: while evidence suggests that larger school size is related to higher levels of teacher burnout (Saloviita & Pakarinen, 2021), school size has not been found to impact teacher turnover rates (Nguyen et al., 2020).

Research Aim and Research Questions

The aim of the current study was to explore the extent to which educational practitioners in general education institutions in Latvia are ready for change, and to identify the main enabling factors and obstacles to the implementation of the SLO in general education institutions in Latvia. In order to gain a theoretical background, a review of existing literature on the elements that influence the readiness of educational staff to accept and implement change was researched. To achieve the aim, three research questions were formulated: (1) To what extent are educational practitioners of general education institutions inclined towards change and innovations in Latvia? (2) Do characteristics like staff's work experience (seniority) and position, school size and type impact employees' attitudes towards change (e.g., educational reform, innovation) in general education institutions in Latvia? (3) What are the main factors and barriers to the implementation of the SLO concept in a general education context? To achieve the aim of the research, quantitative data analysis was conducted, analysing and comparing data from different perspectives, such as the type and size of educational institutions, as well as the position and seniority of employees.

Research Methodology

General Background

The present web-based survey study (implemented in June 2023) is a component of a larger research "A model and tool to support the implementation of the *school as a learning organisation* approach in educational institutions" within the project "Establishment and implementation of the education quality monitoring system" carried out from July 2022 till the end of October 2023 and financed by the European Social Fund. The research is designed to facilitate the adoption of the SLO model in educational institutions throughout Latvia. The framework of the seven-dimensional SLO model proposed by Kools and Stoll (2016) served as a prototype for the development, validation and subsequent implementation of the eight-dimensional SLO model in Latvia.

Sample

The stratified method of probability sampling was employed, wherein the primary criteria for constructing a school sample were as follows: 1) type of educational institution (GE - general education institution; VET - vocational education institution); 2) type of GE institution (primary, lower-secondary, or upper-secondary school). The educational institutions were selected using the randomisation modelling function in IBM SPSS, keeping the proportion between the 641 GE and VET institutions (93.1% GE and 6.9% VET) in order to maintain the representation of the type of educational institution in the sample.

The permission to conduct the staff questionnaire was approved by the management of each educational establishment. On June 6, 2023, invitations to participate in the survey, along with links to the online questionnaire, were sent to the email addresses of 86 institutions selected for the study (80 GE and 6 VET institutions), addressing the letters to the school management for onward distribution to school staff via the school's electronic school management system. All the respondents were informed about the use of research data and the statement "By filling out this questionnaire you agree that the information provided will be anonymously used in the research. You can stop filling the form if you feel that you do not wish to answer any of the questions". The survey data collection took place in June 2023, gathering responses from 68 educational institutions with an overall 79.1% response rate. A total of 759 GE and

VET representatives completed the questionnaire. A representative sample was obtained with generalisation of results to all Latvian GE and VET institutions with 11% error at a 95% confidence level.

In order to achieve the research aim, the responses of the sampled GE institutions were used. with generalisation of results to all Latvian GE institutions with 12% error at a 95% confidence level. The analytical sample of the current study comprises 671 respondents from 62 GE institutions, which accounts for 9.4% of respondents from primary schools, 30.3% from lower-secondary schools, and 60.3% from upper-secondary schools (see Table 1).

Table 1

Characteristics of the Sample According to the Parameters of the Educational Institution Represented by the Respondents

Criterion	Indicator	N	%
GE institution type	Primary school	63	9.4
	Lower-secondary school	203	30.3
	Upper-secondary school	404	60.3
Number of students	Up to 100 students	96	14.3
	101-300 students	182	27.1
	301-500 students	137	20.4
	501-1000 students	156	23.2
	1001 and more students	100	14.9

The sample comprises school management representatives of GE institutions (14.3%), teachers (74.5%), and school support staff (e.g., speech therapist, psychologist, social pedagogue, etc.) (11.2%) with different levels of work experience (see Table 2). The obtained data were analysed in accordance with the requirements of the Personal Data Processing Law in Latvia and the Declaration of Helsinki, and the research was approved by the Academic Ethics Codex of the University of Latvia (April 26, 2021, Nr. 2-3/46).

Table 2

Characterization of the Sample According to the Individual Parameters of the Respondents

Criterion	Indicator	N	%
Position	School management representative	92	14.3
	Teacher	478	74.5
	Support staff	72	11.2
Work experience	0-5 years	166	25.8
	6-12 years	106	16.5
	13-24 years	114	17.7
	25 years and over	257	40.0

Instrument and Procedures

Quantitative data were collected using a single data collection instrument, an online survey questionnaire developed and administered through QuestionPro. The questionnaire's structure encompassed several sections: (1) Information about the respondent and the

represented educational institution, including type of institution, size, location, respondent's position, workload, seniority, and number of workplaces; (2) 5-point Likert scale questions on factors of the school's internal environment such as staff job satisfaction, institutional culture, staff attitudes to change and the use of learning analytics to enhance the culture and quality of learning and teaching; (3) 5-point Likert scale questions relating to the implementation of the following eight dimensions of the SLO model within an educational institution: (A) shared school mission, vision and values; (B) the internal culture of the school organisation that promotes learning; (C) purposeful and continuous professional development of all employees; (D) promoting team learning; (E) the system of knowledge collection and exchange at school; (F) research of professional practice and a culture of innovation at school; (G) the role of school administration in modelling learning and promoting growth; (H) learning from the external environment and larger system.

The questionnaire encompassed both nominal scale and ordinal scale questions. Employee seniority and the institution's student population were initially expressed in absolute numbers (proportional scale) and subsequently categorised into several groups (ordinal scale). To assess the attitude of educational institution practitioners towards change, evaluations of 15 indicators were examined using a 5-point Likert scale, with 1 indicating "disagree", 2 for "partially disagree", 3 for "neither agree nor disagree", 4 for "partially agree", and 5 for "agree". Among these, indicators 2(-), 3(-), 7(-), and 10(-) were formulated with a negative tone, indicating a negative attitude towards change, perceiving change as bothersome, resistance to new ideas, and reluctance to try new concepts. The remaining eleven indicators were phrased with a positive tone (see Table 3). The four indicators with (-) constituted the sub-section "Employees' negative attitude towards change" ($\alpha = .692$), while the remaining indicators formed the sub-section "Employees' positive attitude towards change" ($\alpha = .762$). The internal consistency of scores within both subsections and the reliability of obtained data were assessed using Cronbach's alpha test. The analysis indicated satisfactory internal consistency and data reliability across both subsections.

Data Analysis

Descriptive statistical methods such as Frequencies, Descriptives, and Crosstabs were employed, along with the One-Sample Kolmogorov-Smirnov Test to assess the normal distribution of data. The internal consistency of data was evaluated using the Reliability analysis - Cronbach's alpha. For comparing independent groups, the Mann-Whitney *U* Test and Kruskal-Wallis *H* Test were utilised, while the correlation analysis method (Spearman) explored relationships between variables. Quantitative data processing and analysis were conducted using the IBM SPSS program. A measure of effect size (Eta squared - η^2) for statistically significant differences between two or more respondent groups was calculated and interpreted (Lenhard & Lenhard, 2016). The focal point of data processing and analysis in this study revolves around the staff's attitude within educational institutions towards change. The analysis explores its interplay with the cultural landscape of the institutions and the assessment of the implementation of the dimensions of the SLO model.

Research Results

Employees' Attitude towards Change

Within the subsection "Employees' negative attitude towards change", the indicators yielded relatively lower scores ($M_e = 2-3$, $SD = 1.09-1.26$). Respondents predominantly expressed disagreement (23.1%-48.0%) or partial disagreement (16.4%-23.0%) with statements

formulated in a negative context. Conversely, the indicators belonging to the subsection "Employees' positive attitude towards change" exhibited relatively higher scores ($M_e = 4-5$, $SD = 0.59-1.18$). Respondents generally leaned towards agreement (13.0%-76.9%) or partial agreement (17.7%-45.9%) with positively phrased statements (see Tables 3 and 4). The highest scores were for indicators 12, 14 and 15, highlighting the openness of the management of the GE institutions in Latvia towards change and innovation. These indicators reflect the ability to articulate clear justifications for implementing change within the school and the positive attitude of GE institutions' staff towards change and innovation, considering them essential for the school's advancement.

Table 3
Attitudes of Educational Institution Practitioners towards Change

Item / Indicator	M_e	M_o	SD	σ^2	Min-max	Sum
1. I am looking forward to the changes in my school.	3.00	4	1.18	1.40	1-5	1933
2(-). I don't like change.	3.00	3	1.26	1.58	1-5	1615
3(-). Most of the changes at my school are annoying.	2.00	1	1.17	1.38	1-5	1222
4. Change is usually good for my school.	4.00	4	0.97	0.95	1-5	2293
5. Changes help me perform my work duties better.	4.00	4	1.07	1.15	1-5	2177
6. I initiate the changes that are necessary in the school.	4.00	4	1.18	1.40	1-5	2124
7(-). I'm usually resistant to new ideas.	2.00	1	1.09	1.18	1-5	1151
8. I tend to try new ideas	4.00	4	0.88	0.77	1-5	2424
9. I usually support new ideas.	4.00	4	0.74	0.55	1-5	2521
10(-). I'm usually hesitant to try new ideas.	2.00	1	1.26	1.59	1-5	1439
11. Teachers tend to try different teaching methods and approaches.	5.00	5	0.59	0.35	1-5	2720
12. The school leaders are open to change and innovation.	5.00	5	0.66	0.43	1-5	2776
13. The school leaders have the necessary knowledge and skills to manage change in the school.	5.00	5	1.17	1.38	1-5	2473
14. I believe that change and innovation are necessary for the development of the school.	5.00	5	0.74	0.55	1-5	2665
15. The school leaders have a clear rationale for implementing change in the school.	5.00	5	0.77	0.59	1-5	2690

Table 4
Employees' Attitude towards Change

Item / indicator	1 = disagree	2 = partially disagree	3 = neither agree nor disagree	4 = partially agree	5 = agree
1. I am looking forward to the changes in my school.	13.0	8.1	31.3	34.6	13.0
2(-). I don't like change.	23.1	19.8	25.2	25.0	6.9
3(-). Most of the changes at my school are annoying.	46.6	16.4	24.0	10.0	3.0
4. Change is usually good for my school.	2.5	5.7	22.0	41.4	28.4
5. Changes help me perform my work duties better.	6.1	6.6	22.6	42.9	21.8
6. I initiate the changes that are necessary in the school.	8.8	8.1	22.0	37.8	23.3
7(-). I'm usually resistant to new ideas.	48.0	22.0	19.3	9.3	1.5
8. I tend to try new ideas	1.2	4.7	12.8	45.9	35.3
9. I usually support new ideas.	-	2.2	11.3	44.9	41.6
10(-). I'm usually hesitant to try new ideas.	32.1	23.0	19.6	20.4	4.9
11. Teachers tend to try different teaching methods and approaches.	-	0.5	3.9	31.3	64.4
12. The school leaders are open to change and innovation.	0.3	1.9	3.2	17.7	76.9
13. The school leaders have the necessary knowledge and skills to manage change in the school.	6.4	3.9	11.3	22.3	56.1
14. I believe that change and innovation are necessary for the development of the school.	0.8	0.7	7.9	28.5	62.0
15. The school leaders have a clear rationale for implementing change in the school.	0.8	1.9	6.3	24.2	66.9

Employees' Attitude towards Change (by Type of Educational Institution)

The Kruskal-Wallis H test revealed statistically significant differences ($p < .001$) with small effect sizes ($\eta^2 = .008-.029$) in the attitudes of employees from different types of GE schools towards change, as observed in the assessments of various indicators. Specifically, evaluations of representatives from lower-secondary schools scored higher in the indicators 12 and 15. Evaluations of representatives from primary schools scored higher in the indicator 3(-). The evaluations of representatives from upper-secondary schools scored higher in the indicator 13. Representatives from primary schools tended to perceive change as more annoying ($\chi^2(2) = 7.276, p = .026, \eta^2 = .009$), with mean ranks of 328.66 for primary schools, 272.55 for lower-secondary schools, and 303.80 for upper-secondary schools. In contrast, representatives from lower-secondary and upper-secondary schools recognize the openness of school leaders and their readiness for change and innovation ($\chi^2(2) = 6.709-18.190, p < .001, \eta^2 = .008-.029$), with mean ranks ranging from 248.40 to 274.05 for primary schools, 297.90 to 330.79 for lower-secondary schools, and 283.52 to 304.09 for upper-secondary schools.

Employees' Attitudes towards Change (by Size of Educational Institution)

Based on the outcomes of the Kruskal-Wallis H test, notable statistically significant differences ($p = .001-.043$) were identified, accompanied by small effect sizes ($\eta^2 = .010-.025$), across institutions in relation to their size (measured by the number of students). These disparities were particularly apparent in five indicators (see Table 5). The largest schools (with 1001 students or more) displayed more agreement with indicators 3(-) and 7(-), reflecting a more negative attitude towards change and a greater resistance to novel concepts. This correlation is further substantiated by the findings from Spearman's correlation analysis: as the number of students in a school increased, so did the level of agreement with these two statements ($r_{3(-)} = .146, p < .001$; $r_{7(-)} = .108, p = .008$). Conversely, the smallest schools (with up to 100 students) exhibited stronger alignment with statements 12 and 13, which pertain to the receptiveness of school leaders towards change and innovation, along with the requisite skills and knowledge for orchestrating change within the school. Medium-sized schools (with 301-500 students) demonstrated higher agreement with statement 15, indicating that "School leaders have a clear rationale for implementing change in the school."

Table 5

Statistically Significant Differences Between Mean Ranks Compared by School Size

Item / indicator	Rated higher	Kruskal-Wallis H Test statistics					Effect size η^2
		$\chi^2(4)$	p	Mean rank 1	Mean rank 2	Mean rank 3	
3(-). Most of the changes at my school are annoying.	Largest schools	18.515	.001	261.52	285.26	356.12	.025
7(-). I'm usually resistant to new ideas.	Largest schools	10.199	.037	276.98	294.50	333.16	.011
12. The school leaders are open to change and innovation.	Smallest schools	9.824	.043	315.94	305.45	301.86	.010
13. The school leaders have the necessary knowledge and skills to manage change in the school.	Smallest schools	17.687	.001	317.60	308.55	314.86	.023
15. The school leaders have a clear rationale for implementing change in the school.	Medium-sized schools	12.147	.016	316.82	326.18	294.74	.014

Note. The mean ranks for the three categories of schools are as follows: smallest schools (up to 100 students) have a mean rank 1, medium-sized schools (301-500 students) have a mean rank 2, and largest schools (1001 and more students) have a mean rank 3.

Employees' Attitudes towards Change (by Position of Respondents)

When analysing the evaluations of indicators within the survey section "Employees' attitude towards change" based on employee positions, notable statistically significant differences emerged, accompanied by both small ($\eta^2 = .005-.018$) and intermediate ($\eta^2 = .114$) effect sizes, across the assessments of nine indicators (see Table 6). Specifically, indicators 3(-) and 10(-) garnered higher agreement from teachers, reflecting their perception of change within

their schools as vexatious and their inclination to be cautious about embracing new ideas in their pedagogical practices. Conversely, the remaining indicators found stronger agreement among the management staff. This underscored the management's positive stance towards change, viewing them as beneficial for the school's improvement, contributing to enhanced job performance, and being indispensable for the school's growth (indicators 1, 4, 5, 14). Additionally, the school management representatives' active role in change implementation was apparent, as evidenced by their proclivity to explore new ideas, provide consistent support for novel concepts, and foster change deemed necessary for the school (indicators 6, 8, 9).

Table 6
Statistically Significant Differences between Mean Ranks by Respondents' Job Position

Item / indicator	Rated higher	Kruskal-Wallis <i>H</i> Test statistics					Effect size η^2
		$\chi^2(2)$	<i>p</i>	Mean rank 1	Mean rank 2	Mean rank 3	
1. I am looking forward to the changes in my school.	Management staff	10.228	.006	323.34	284.34	340.99	.011
3(-). Most of the changes at my school are annoying.	Teaching staff	10.404	.006	268.20	308.55	253.73	.011
4. Change is usually good for my school.	Management staff	14.403	.001	316.71	282.96	353.49	.018
5. Changes help me perform my work duties better.	Management staff	13.418	.001	305.71	284.32	354.71	.016
6. I initiate the changes that are necessary in the school.	Management staff	71.167	.000	308.30	269.11	434.27	.114
8. I tend to try new ideas	Management staff	11.172	.004	289.50	287.47	350.34	.012
9. I usually support new ideas.	Management staff	14.762	.001	287.63	286.37	357.65	.018
10(-). I'm usually hesitant to try new ideas.	Teaching staff	7.136	.028	287.95	305.74	253.53	.005
14. I believe that change and innovation are necessary for the development of the school.	Management staff	7.004	.030	310.47	287.84	332.13	.005

Note. Mean rank 1 for school support staff, mean rank 2 for school teaching staff, mean rank 3 for school management staff.

Employees' Attitude towards Change (According to Respondents' Seniority)

Upon comparing the evaluations of indicators within the survey section "Employee's attitude towards change" based on the seniority of the employees, statistically significant differences with small effect sizes emerged in the evaluations of indicators 2(-), 3(-), and 7(-) (see Table 7). A discernible trend becomes apparent in all these cases: as the employees' work experience increases, the ratings of these indicators also rise. This pattern suggests that individuals with longer tenures in the school display more resistance to new ideas, exhibit a lesser inclination towards change, and are more prone to perceive change as bothersome. This observation finds reinforcement in the outcomes of Spearman's correlation analysis. Significant positive correlations between employees' seniority and the evaluations of indicators 2(-), 3(-), 7(-), and 10(-) were identified. These correlations indicate that as work experience accumulates, the evaluations of these indicators tend to rise ($r = .111-.142$, $p = .001-.007$).

Furthermore, a positive correlation was observed between the common indicator within the subsection "Employees' negative attitude towards change" and the length of work experience of employees. This correlation indicates that as the length of work experience increases, the level of resistance to change also intensifies ($r = .155, p < .001$).

Table 7

Statistically Significant Differences Between Mean Ranks by Respondents' Work Experience

Item / indicator	Rated higher	Kruskal-Wallis H Test statistics						Effect size η^2
		$\chi^2(3)$	p	Mean rank 1	Mean rank 2	Mean rank 3	Mean rank 4	
2(-). I don't like changes.	25 years and over	10.546	.014	272.63	282.40	283.66	323.36	.013
3(-). Most of the changes at my school are annoying.	25 years and over	13.086	.004	261.24	291.64	296.19	321.24	.017
7(-). I'm usually resistant to new ideas.	25 years and over	13.307	.004	256.98	304.61	301.69	315.93	.018

Note. Mean rank 1 for school staff with experience 0-5 years, mean rank 2 for school staff with experience 6-12 years, mean rank 3 for school staff with experience 13-24 years, mean rank 4 for school staff with experience 25 years and over.

Employees' Attitudes towards Change and the Culture of the Educational Institution

The common indicator within the subsection "Employees' positive attitude towards change" demonstrated a positive and statistically significant correlation with the common indicator representing the culture of the educational institution. This suggests that as the school culture becomes more positive, the employees' attitude towards change also becomes more positive. On the other hand, the common indicator within the subsection "Employees' negative attitude towards change" showed a statistically insignificant negative correlation with school culture. This could potentially indicate that as the school culture diminishes, the employees' resistance to new ideas and changes increases. However, it is important to note that this hypothesis has not been statistically validated (see Table 8).

Table 8

Correlations Between Employees' Attitudes towards Change and the Culture of the Educational Institution (Spearman's rho Results)

	Employees' negative attitude towards change		Employees' positive attitude towards change	
	r		r	
The culture of the educational institution		-.027		.305**
	p	.511		< .001

** . Correlation is significant at the .01 level (2-tailed).

Employees' Attitudes towards Change and the Implementation of the SLO Model in an Educational Institution

The common indicator within the subsection "Employees' positive attitude towards change" exhibited positive and statistically significant correlations with the evaluations of

the implementation of all dimensions of the SLO model. Among these correlations, it showed the strongest correlation with the common indicator of the SLO dimension F "Research of professional practice and a culture of innovation at school" ($r = .346, p < .001$). This indicates that as the employees' attitude towards change becomes more positive, the assessment of the implementation of all dimensions of the SLO model increases. Moreover, a positive attitude towards change is connected to a higher level of professional practice, research and innovation culture within the general education institution.

In contrast, the common indicator within the subsection "Employees' negative attitude towards change" did not exhibit significant correlations with the evaluations of the implementation of the dimensions of the SLO model. While there seems to be a slight inclination towards a negative correlation (indicating that greater employee resistance to change might result in lower evaluations of SLO model dimensions), this tendency did not reach statistical significance (see Table 9).

Table 9

Correlations Between Employees' Attitudes towards Change and the Dimensions of the SLO Model (Spearman's rho Results)

Dimensions of the SLO model	Employees' attitude towards change	
	negative	positive
A - Shared school mission, vision and values	$r = -.035, p = .390$	$r = .300^{**}$
B - The internal culture of the school organisation that promotes learning	$r = -.014, p = .733$	$r = .266^{**}$
C - Purposeful and continuous professional development of all employees	$r = -.014, p = .740$	$r = .279^{**}$
D - Promoting team learning	$r = -.028, p = .491$	$r = .332^{**}$
E - The system of knowledge collection and exchange at school	$r = .010, p = .814$	$r = .256^{**}$
F - Research of professional practice and a culture of innovation at school	$r = -.011, p = .795$	$r = .346^{**}$
G - The role of school administration in modelling learning and promoting growth	$r = -.039, p = .347$	$r = .307^{**}$
H - Learning from the external environment and larger system	$r = -.045, p = .281$	$r = .273^{**}$

** . Correlation is significant at the .01 level (2-tailed).

Discussion

The current study is a component of a larger research project aimed at facilitating the implementation of the model "School as a Learning Organisation" (SLO) in educational institutions in Latvia. It was explored that the attitudes of educational practitioners towards change, encompassing areas such as educational reforms, new practices and innovations within the general education institutions in Latvia. The research was conducted in the context of the development, validation, and further implementation of the SLO model in Latvia. The outcomes of this study provide valuable insights into the interplay between educational practitioners' attitudes towards change, the organisational climate and culture of schools, supportive and transformative leadership, and the effective execution of the SLO model.

Regarding the first research question, findings indicated that the attitude of the educational practitioners in Latvia towards change was generally positive, rather than neutral. Analysis of the online survey responses revealed that participants mostly agreed ($M_e = 5$) with the statements affirming the necessity of change and innovation for school development.

They also acknowledged that teachers in their institutions were inclined to experiment with various teaching methods and approaches. Furthermore, the survey respondents observed that their school administration displayed openness to change and innovation, possessed a clear rationale for implementing change, and was equipped with clear rationale, knowledge, and skills to effectively manage change within the institution. Consequently, the study highlighted a predominantly positive evaluation of the school administration's openness to change and their capacity for change management. Conversely, statements reflecting a negative stance towards change received the lowest level of agreement ($M_e = 2$) among the educational practitioners in Latvia. These research findings are in alignment with other studies, which have determined that the public in European countries has exhibited a surprising openness to various education reform proposals, demonstrating from the outset a high level of understanding of the importance of education reform (Busemeyer et al., 2018; Constantinescu, 2015).

The results of the second research question underlined the importance of the characteristics of educators (e.g., work experience and position) and the characteristics of educational institutions (e.g., school type and size) in influencing attitudes to change. The results indicated that school administration, as compared to school teaching and support staff, exhibit a greater openness to new practices and innovation. Additionally, they display a more positive outlook towards change, which in turn contributes to the enhancement of quality assurance and the overall development of educational institutions. Furthermore, the results indicated that teachers tend to be more inclined to view changes in their schools as potentially annoying, displaying a propensity to exhibit hesitation in adopting new ideas within their pedagogical practices. However, it is highly important to emphasise that the level of support for change (e.g., educational reforms, new practices and innovations) is crucially dependent on well-planned implementation and the informed participation of educators.

It is essential for staff to recognise the importance and value of change, not only for the academic institution but also for their personal and professional development. This highlights the need to address constraints and opportunities in a way that resonates with educational practitioners (Busemeyer et al., 2018; Constantinescu, 2015; Hübner et al., 2021).

Moreover, the extent to which teachers are willing to adopt and integrate new practices and innovations depends on the school's organisational climate and culture, as well as the quality of the work of the school's management team. Leadership that is supportive and promotes a positive school culture can encourage teachers to adopt new practices and reinforce their positive attitudes towards educational reforms (Johnson et al., 2017; Towers et al., 2022). The results of the study were consistent with this notion, revealing a positive and statistically significant correlation between employees' positive attitudes towards change and the culture of the general education establishment.

This culture encompasses effective mutual communication, cooperative interactions, and supportive dynamics. In particular, the results revealed that the more positive the school culture becomes, the more positive and optimistic the staff attitude towards change is.

One of the important emerging issues in the current research data is the role of long-term work experience in influencing employees' attitudes towards change. The results showed that seniority affects attitudes to change as the longer a person works in a school, the greater is the resistance to new ideas, the less they like change and the more often they perceive it as annoying. Similar trends were also found in other studies on the influence of the teacher's age and length of teaching experience on the perception of innovativeness, openness to new ideas and practices, and attitude to change (Camino, 2021; Constantinescu, 2015; Johnson et al., 2017; Hübner et al., 2021; Sánchez Ruiz, 2021).

The current research data also revealed that in smaller schools (with up to 100 students), the willingness of the school administration to embrace change and innovation, along with their ability to provide a clear rationale for change, received more positive evaluations. In contrast

to some prior studies (Chang et al., 2011), the current study revealed that larger schools (with 1001 pupils or more) tend to show more resistance to new ideas and more sceptical attitudes to change among their staff. Evidently, in larger schools, staff face greater challenges, such as increased workloads, potential overwork, burnout and frequent career changes, leading to a lack of resources to implement change. In smaller schools, staff seem to be more open to change, as workloads are more manageable, job satisfaction is higher and trust in the school administration is higher, which effectively promotes communication and coordination in a smaller team. In such schools, teachers who are positive about their work and have a supportive school culture are more likely to be positive about change and adopt new practices (Johnson et al., 2017; Towers et al., 2022).

The third research question focused on the main factors and barriers that influence the implementation of the SLO concept in the wider context of general education in Latvia. Since a positive attitude to change among teaching staff remains crucial to the success of education reforms such as the SLO model, it is important to create a positive organisational climate and culture. This is achieved through supportive and transformative leadership by the school administration, which is a key enabler and mediator of positive staff attitudes towards change. When school administration creates a culture of trust in its decisions and, more importantly, involves teachers in shared decision-making, openness to change and new experiences increases. However, there are significant challenges to the implementation of the SLO model in Latvia as the lack of teaching staff, combined with the ageing of teachers creates complex obstacles. It should be noted that in 2022 there were 23% of retired and pre-retired teachers in general education in Latvia (14% of teachers of 60-64 years and 9% of teachers over 64 years, Central Statistical Bureau of Latvia, 2022) and they may lack motivation to accept change, reflecting a lack of trust in changes in education policy. Furthermore, the centralised top-down approach that lacks flexibility may hinder the integration of the SLO model into the educational environment in Latvia. This rigid approach fails to recognize that a single strategy might not be suitable for all educational institutions, which reinforces the view that one size does not universally accommodate diverse educational settings (Barakat, 2019; Hübner et al., 2021).

Conclusions and Implications

This research explored the relationship between the attitudes of educational staff towards change and the implementation of the SLO model in general education in Latvia. The results show that the overall attitude of employees towards change within general education institutions in Latvia is generally more positive than neutral. However, the study revealed nuanced contextual factors influencing the attitudes of staff towards change.

Firstly, the attitude of employees towards change is shaped by the specific characteristics of the educational institution they represent, including the type and size of the institution. For instance, representatives from primary schools were more likely to perceive changes as bothersome. On the other hand, those from lower-secondary and upper-secondary schools tend to recognize the school leaders' inclination for openness and readiness to embrace change and innovation. Interestingly, attitudes are also influenced by the scale of the institution, which is determined by the number of students enrolled. Larger institutions showed more negative attitudes towards change and more resistance to new ideas. In contrast, smaller schools tended to evaluate the school leaders' openness to change more favourably, and they also rated the administration's ability to articulate the rationale for change more positively.

Secondly, employees' attitudes towards change are also influenced by the individual parameters of the respondents, especially their positions and seniority. Teachers are more likely than school support and management staff to find change in their schools annoying and to hesitate when it comes to trying new ideas in their pedagogical practices. On the other hand,

the management of educational institutions tended to be more positive about change, seeing it as beneficial to the school, contributing to better job performance and essential for school development. In addition, school administrators were more proactive in implementing change, showing a willingness to experiment with new ideas, consistently supporting new concepts and promoting the necessary change in the school.

Moreover, the survey results highlighted the willingness of the representatives of the school administration in general education institutions in Latvia to embrace changes and innovations. They demonstrated the school leaders' capacity to effectively articulate the reasons behind implementing changes in the school. Additionally, an employee's seniority significantly impacts their attitude towards change. The longer an individual has worked in a school, the more resistant they become to new ideas, disliking change, and perceiving them as bothersome.

Furthermore, the positive attitude of employees towards change demonstrates a significant and positive correlation with the culture of the general education institution. This culture encompasses effective mutual communication, cooperation, and support. Specifically, as the school culture improves, the employees' attitude towards change becomes more positive.

Finally, the positive attitude of employees towards change exhibits positive and statistically significant correlations with all dimensions of the SLO model. Noteworthy is that this correlation was particularly strong with the SLO dimension "Research of professional practice and innovation culture at school". This suggests that as employees' positive attitude towards change increases, the successful implementation of all dimensions of the SLO model is enhanced. This positive attitude also corresponds to a higher level of culture related to professional practice research and innovation within the general education institution.

The results of the conducted research lead the authors to conclude that teachers are the agents of real change because they have direct contact with students, parents, and other educational stakeholders. Therefore, it is essential to evaluate the influence of various factors on teachers' attitudes towards change. School administrators should implement meaningful and supportive communication with teachers to explain the reasons and effects of change, creating an environment that fosters the successful implementation of change. Equally important is the cooperation among teachers in sharing experience and knowledge. This synergy between experienced teachers and new teachers can lead to effective collaboration and joint work planning, ultimately improving the quality and efficiency of their work. In the future, more in-depth research will be necessary to determine how the type of educational institution (primary, lower-secondary, and upper-secondary) affects employees' attitudes towards change and the determining factors. When conducting this type of research at the national level, it was crucial to consider the sociocultural context, which could vary from one country to another. Conducting cross-national studies in this field would also be valuable to promote international cooperation and facilitate the comparison of research results within an international context.

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Declaration of Interest

The authors declare no competing interest.

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Agnese Lastovska
(Corresponding author)

PhD, Research Assistat, Scientific Institute of Pedagogy, Faculty of Education, Psychology and Art, University of Latvia, Latvia
E-mail: agnese.slisane@gmail.com
ORCID: <https://orcid.org/0000-0002-6821-3331>

Svetlana Surikova

PhD, Senior Researcher, Scientific Institute of Pedagogy, Faculty of Education, Psychology and Art, University of Latvia, Latvia
E-mail: svetlana.surikova@lu.lv
ORCID: <https://orcid.org/0000-0002-3025-6344>

Gunta Siliņa-Jasjukeviča

PhD, Senior Researcher, Faculty of Education, Psychology and Art, University of Latvia, Latvia
E-mail: gunta.silina-jasjukevica@lu.lv
ORCID: <https://orcid.org/0000-0002-6493-5396>

Inese Lūsēna-Ezera

PhD, Head, Institute of Management Science, Liepāja University, Lielā iela 14, Liepāja, Latvia.
E-mail: inese.lusena-ezera@liepu.lv
Website: <https://www.liepu.lv/en/151/institute-of-management-science>
ORCID: <https://orcid.org/0000-0002-0943-7431>



DIGITAL CITIZENSHIP IN GEORGIAN'S TEACHERS, STUDENTS AND PARENTS

Sofiko Lobzhanidze, Giorgi Urchukhishvili, Marika Sikharulidze

Ilia State University, Georgia

E-mail: sopiko_lobjanidze@iliauni.edu.ge, gurchukhishvili@tpdc.ge,
marika.sikharulidze@ph-int.org

Abstract

The Council of Europe's (CoE) model on Digital Citizenship Education (DCE) has at its basis the 'Competencies of Democratic Culture' model, which considers being an active and responsible citizen and implies the development of a set of lifelong competencies both online and offline at various levels, as well. Taking the 'Competencies of Democratic Culture' the CoE experts elaborated on the DCE domains, which are the appropriate way to develop democratic culture competences in the digital environment. Georgia, as a member country, signed the agreement on DCE to be applied at the K-12 curriculum level and joined the DCE project of the CoE in July 2020. Thus, as an educational concept, DCE is relatively new to the education system of Georgia. The aim of the study was to describe the current situation concerning DCE in Georgia, namely on awareness of the concept and its foundations, as well as identifying self-reported DCE competences by teachers, students and parents, in the light of the Ribble's and the CoE's models. Data was collected in five schools in 2020. The issue was studied using the quantitative method, an online survey, 1954 respondents were involved in the research. It was demonstrated that most of the respondents had a lack of awareness about information-communication technologies. It can be concluded that communication among school teachers, students and parents about the issues of digital security has not started yet. The correlation between the geographic location of a school and teachers' digital competences is not confirmed.

Keywords: digital citizenship education, digital domains, digital competences, digital school culture, exploratory sequential design

Introduction

Significance and Theoretical Foundations

At the beginning of the 21st century, the digital revolution marked a deep societal shift in how people think, what they think about, how they communicate, how they relate to the material environment and to each other, how they organize their working conditions, and how they build their societies at all (Jansen, 2002). Jansen's words are still relevant nowadays, in a world marked by social acceleration driven by the economy and supported by technological development, which governments try to control through new laws and digital weapons, often without progress (Bonilla & Rosa, 2015).

If technology opens doors to the "participatory culture" (Jenkins, 2009), it should be noted that participation implies previous and lifelong empowerment through education, whether formal, informal, or non-formal. Empowerment is key to benefit from the opportunities (e.g., communicate, play, be informed, learn and work) avoiding the risks (e.g., privacy, security, health, consumption, ...). This subject concerns every citizen, even those who are disconnected, since the boundary between online life and 'real life' is blurred and "it is not appropriate to think only about 'digital' or 'analogue', or 'online' and 'face-to-face'" (Netsafe, 2018).

The development of digital citizenship competencies is of particular importance from the early childhood education. Accordingly, the general educational institution should take care of its development from the very first level. Research studies show that sufficient and inclusive access to relevant programs at school ensures the formation of a sustainable digital citizen (Ghosn-Chelala, 2019; Lauricella, 2022). The importance of the mentioned competencies has increased even more in the conditions of the global COVID-19 pandemic when the teenage generation was left face to face with a large volume of unfiltered information in the internet space. Both the family and the school and the community as a whole were unprepared to help the younger generation cope with the challenges they were suddenly faced and consider the force majeure situation as an opportunity for digital development (Akciil & Bastas, 2021; Buchholz et al., 2020; Martin et al., 2022).

The Council of Europe's model on Digital Citizenship Education has at its basis the 'Competencies of Democratic Culture' model (Council of Europe, 2018), which considers that being an active and responsible citizen implies the development of a set of lifelong competencies both online and offline, and at various levels, from local to global. Also known as "The butterfly of competencies for democratic culture", it consists of several competence items organized into four areas, namely: Values: Valuing human dignity, rights, diversity, democracy, justice, fairness, equality and the rule of law; Attitudes: Openness and tolerance to cultural differences and to other beliefs, viewpoints and social practices; Skills: Autonomous learning, Analytical and critical thinking skills, skills of listening to others and observing your life practices, empathy, flexibility and adaptability, conflict-resolution skills, etc.; finally, knowledge and critical understanding of the self, language and communication used during life cycle, politics, law, human rights, cultural and religious diversity, history, media, economies and environment.

According to "The butterfly of competences for democratic culture", which integrates a set of descriptors per item and whose application has been tested in formal learning contexts, the competence items are teachable, learnable and this learning is measurable. Taking the 'Competencies of Democratic Culture' (Council of Europe, 2018) as a fundamental reference, the Council of Europe started the project Digital Citizenship Education in 2016, whose expert group had in mind to build the 10 digital citizenship domains: Being online includes access and inclusion, learning and creativity and media and information literacy. Well-Being online includes ethics and empathy, health and wellbeing issues, e-Presence and online interactions and finally rights online refer to active participation, rights and responsibilities, privacy and security and consumer knowledge (Council of Europe, 2018).

The domains are also the appropriate way to develop democratic culture competences in the digital environment, which implies policy development, the involvement of multiple stakeholders, following contextualized and adapted strategies to the specific contexts, having in mind the available infrastructures and resources. Finally, all the actions taken must be monitored and assessed, to come up with results that are crucial to improve the model. The study given below is based on these 10 domains and their areas.

The second model used in the current study as a theoretical background is Ribble and Bailey's (2017) model of digital citizenship. It uses a framework of nine interrelated elements as a way for online users to understand and to use the issues concerning DC. They are digital access, commerce, communication, literacy, etiquette, so-called netiquette, law, rights, and responsibilities, health, and wellness, and finally digital security. These elements give knowledge for understanding the digital issues that are important to educators. They should be used to identify current areas of need in general and higher education, as well as emerging issues that may become important in the future.

The empowerment of learners, of all ages, from crib to lifelong learning, has been a concern of governments, research institutions, schools and families, as well as of international institutions (e.g., UNESCO, OECD, European Commission or the Council of Europe) and

NGOs (e.g., Common Sense Media in the US, Netsafe in New Zealand, or MediaSmarts in Canada). The presented study is scientifically anchored in two models mentioned above: The Digital Citizenship in schools model developed by Ribble and Bailey (2017) and the Digital Citizenship Education model organized by the Council of Europe in 2019. The cross of the two models is presented in Table 1.

Table 1

Crossing Ribble and Bailey's and the Council of Europe's Digital Domains

#	Ribble's Model of DCE (Ribble, 2017)	CoE's Model of DCE (Council of Europe, 2019)	Crossing the two models (2022)
1	Digital Security	Privacy and Security	Privacy and Security
2	Digital Etiquette	ePresence and Communications	Netiquette
3	Digital Literacy	Media and Information Literacy Learning and Creativity	Media Literacy Education
4	Digital Communication	Ethics and Empathy Active Participation	Ethical participation
5	Digital Access	Access and inclusion	Inclusive access
6	Digital Commerce	Consumer Awareness	Consumer Awareness
7	Digital Health and Wellness	Health and Wellbeing	Health and Wellbeing
8	Digital Law Digital Rights and Responsibilities.	Rights and Responsibilities	Rights and Responsibilities

A set of eight common areas came up after having crossed the two models, namely:

1. Privacy and Security - protect personal and others' information (e.g., strong passwords, site security) and act safely online
2. Netiquette - manage online identity and presence and show suitable etiquette through positive, coherent and consistent interactions.
3. Media Literacy Education - mobilize critical thinking to interpret, understand media messages, and express creativity through digital media.
4. Ethical participation - behave ethically in digital environments, making responsible decisions, and participating actively and positively in society.
5. Inclusive access - overcome all sorts of digital divides, from having access to technology to the openness of digital spaces to any kind of minority.
6. Consumer Awareness - be aware of the dangers related with online purchasing and understand the implications of the online commercial reality
7. Health and Wellbeing - be aware of risks (e.g., online addiction) and opportunities that can affect wellness (e.g., reliable health information)
8. Rights and Responsibilities - Know the citizens' rights (e.g., freedom of expression) and what is legal and acceptable according to the law.

The above-mentioned areas are studied and covered by Digital Citizenship Education and must be developed by every citizen, from crib to lifelong learning. Therefore, the identification of factors, measurement of these competences and development of educational models represent the scientific novelty which is required to be offered to the educational community in Georgia.

Studies of digital citizenship competencies are mainly based on either Ribble (Suson, 2019) or the Council of Europe DCE models (Bombardelli, 2019, Mattar et al., 2022). The uniqueness of the presented study is the fact that the theoretical framework of the research is a crossed model of eight common dimensions which is the combination of the two most authoritative DCE models mentioned above.

Current Situation and Challenges in Georgia

In November 2019, the Council of Europe's committee of ministers signed a recommendation on developing and promoting digital citizenship education, suggesting the governments of member States to "review their legislation, policies and practices, including learning frameworks", aligning them with "the recommendations, principles and further guidance" of the document, apart from promoting their implementation in formal, non-formal and informal education settings", besides assessing "the impact of the legislation, policies and practices at regular intervals" (Council of Europe, 2019).

Other key recommendations pointed to the need to involve all relevant stakeholders in the process, including through the provision of appropriate resources (e.g., sense-making practices, pedagogical innovations and educational resources), initial and in-service education and training to teachers and other educators, promoting cooperation between public, private and civil sectors and education institutions, and ensure their alignment with relevant national, European and international standards (e.g. Council of Europe). Finally, the implementation of the recommendation should be monitored by member states at least every five years.

The recommendation is an output of the Council of Europe's project 'Digital Citizenship Education', which started in 2016, aiming to contribute to reshaping the role that education plays in enabling all children to acquire the competences they need as digital citizens to participate actively and responsibly in democratic society, whether offline or online. Its first outputs were a literature review on digital citizenship (Frau-Meigs et al., 2017), and a multi-stakeholder consultation focused on sense-making practices in DCE (Richardson & Milovidov, 2017).

The consultation pointed out "the lack of knowledge among educators of the importance of digital citizenship, the limited number of pedagogical resources available, properly targeted, and at least apparently considerable confusion among experts and educators between what is generally referred to as 'internet safety' and the concept of digital citizenship education. In April 2019, the Council of Europe organized a network of experts and practitioners (the DCE Promoters Network), currently representing the project and developing activities in 24 European countries.

To tackle the lack of DCE validated resources, the Council of Europe published the "Digital Citizenship Handbook" in 2019 (Richardson & Milovidov, 2019) and the "DCE Trainers' Pack" in 2020 (Raulin-Serrier, et al., 2020). Still in 2020, a year during which around 84% of the world's student population was affected by school closures due to COVID 19 and the consequent shift to online distance learning (UNESCO, 2020), the Council of Europe provided a rapid response to the effects of the pandemic, by launching a set of resources namely a set of lesson plans on DCE (Council of Europe, n.d.).

Georgia signed the agreement on DCE to be applied at the K-12 curriculum level, and finally joined the Digital Citizenship Education project of the Council of Europe in July 2020. Therefore, as an educational concept, Digital Citizenship Education is relatively new for the education system of Georgia. It was officially adopted by the Georgian general education system in September 2021: two strands/subject areas of The National Curriculum - Computer Sciences at the primary and Civic Education at the general education level cover the learning outcomes of the Digital Citizenship Education.

In the year 2020 significant changes were made in the general competences section of the Teacher Professional Standards (Ministry of Education and Science, 2020). The competencies such as Media Literacy, Information Literacy and Digital Literacy became mandatory for the teachers who are entering the profession as well as for the in-service teachers. For example, as it can be seen in the Teacher Professional Standards, Chapter II, Article 5, Sub-section D: “The teacher should be able to apply information-communication technologies while planning the learning process and consider the principles of digital citizenship. The article of learning resources includes a section that is focused on the importance of teacher competence in media literacy: It is mandatory for a teacher to be able to “search or/and prepare learning resources for learning aims and student needs that will be based on the principles of media literacy” (Chapter II, Article 7, Section E. Ministry of Education and Science of Georgia, 2020).

Therefore, two of the fundamental documents that define General Education policy – National Curriculum and Teacher Professional Standard, reflect the basic competences of digital literacy.

Supporting the development of students' digital literacy as a cross-curricular competence is one of the priorities of the United National Strategy of General Education 2020-2032 (United National Strategy of Education and Science of Georgia - 2022-2032).

Apart from the education policy documents mentioned above, the document adopted by the government of Georgia “National Cybersecurity Strategy of Georgia and its Action Plan 2021-2024 (Government of Georgia, 2021) is also noteworthy. The document was approved in 2022. It should be mentioned that the Cybersecurity Strategy document is a third edition, and the Education Component has been involved in it for the first time. The component of education includes general and higher education levels, where teaching digital citizenship as a multidisciplinary field combines the following: Cyber Awareness, Digital Security, Media Literacy, Digital Literacy, and other adjacent competences. The Strategy Action Plan implies its execution through the involvement of various actors, including the Ministry of Education and Science and the National Communications Commission. The third edition of the strategy is valid until the end of 2024. The strategy defines the following significant objectives: “Developing skills and raising education level of school students and higher education students in order to operate safely and securely in the cyberspace” (Objective 1.1); “Raising awareness of the information society and organizations in order to operate safely and securely in the cyberspace” (Objective 1.2) and “Providing learning courses and learning materials to promote Digital Citizenship (Government of Georgia, 2021). As it was already mentioned, there are certain shifts in the Georgian general education system in the direction of teaching.

In addition to the commitments taken by the country, the relevance of digital citizenship research in Georgia is also determined by the high involvement of the majority of teenagers in social networks, the internet and, in general, a strong tendency to use technological gadgets and social networks. Also, below average competence of parents/guardians, teachers, and school administrators in the use of information communication technologies (Institute for Social Research and Analysis, 2015) and daily growing threats that appear in the form of various challenges or managed games related to online life and which, in some cases, even leads to lethal results (Drummond, et al 2020; Duggan, 2017).

In the recent reports of the Mandatory Service of the Georgian Educational Institutions, we read that the statistics of the teenagers addicted to online violent games are increasing (2021 and 2022 reports of the State Educational Institution of Georgia).

Despite the international obligations and challenges facing the country, conducting research on digital citizenship has not become a subject of discussion in the scientific groups in Georgia yet, while there are existing research studies on Digital Citizenship Education in post-Soviet countries (Buchholz et al, 2020; Talarico, 2021). The regional context of this study is rooted, since this paper stands out as it specifically focuses on the current state of Digital

Citizenship Education in Georgia, in particular its general education system. This kind of focused study has never been conducted in the context of this country before.

The presented research carried out in the framework of the national scientific project "Digital Citizenship in General Education Schools in Georgia: Challenges and Ways of Implementation" enables education policymakers and other stakeholders to make evidence-based changes in the curriculum in the direction of digital literacy. It also enables them to offer need-based professional development activities to the teachers, refine the methodology of teaching digital literacy, etc.

The scientific project aimed to infuse DCE in educational policy and school culture through pre-service and in-service activities started after joining the Digital Citizenship Education project. The core steps of this project consisted of understanding to what extent Georgian teachers, students and educators were aware of digital citizenship and its importance, apart from asking teachers if they felt competent to implement DCE in the classroom and which type of DCE activities were developed in Georgian schools.

Developing research in the area is of crucial importance not only from the viewpoint of its scientific value but also from the viewpoint of public awareness. The presented research lays foundation for a new descriptive knowledge and practical experience of Digital Citizenship Education among school community members and of the prospects for their development, which will be used by researchers as well as by education policymakers.

Research Aim and Questions

The aim of the study was to explore the current situation concerning Digital Citizenship Education in Georgia, namely awareness of the concept, by means of identifying self-reported DCE competences by teachers, students, and parents/guardians in the light of the Ribble's and the Council of Europe's models.

In terms of design, it followed an exploratory sequential design in which two strands were implemented in a sequence. The qualitative focus groups with educators were conducted in the first stage of the study to explore the phenomenon and then first-hand sociological information was collected using a quantitative method, an online survey of the teachers, students, and parents/guardians. The research is considered to be an exploratory study because it was the first time that information on DCE was collected from Georgian teachers, students and parents.

The research has been conducted in five general education public schools. The following research objectives were formulated:

- To study general education school teachers', students' and parents'/guardians' awareness of the concept of Digital Citizenship in its broader meaning;
- To study general education school teachers', students' and parents'/guardians' awareness of the concept of Digital Citizenship elements/domains;
- To correlate the geographic location of public schools with teacher's Digital Citizenship awareness;
- To correlate access to the internet with DCE competencies of the school society?

The following research questions were formulated according to the aim and objectives of the quantitative research:

1. To what extent are members of Georgian public schools' society (teachers, students, parents/ guardians) aware of Digital Citizenship?
2. Does the school teachers' awareness of digital citizenship correlate with the geographic location of the school?
3. Does the access to the internet relate to the DCE competencies of the school society?

Therefore, the Research Hypothesis suggested that: i) members of Georgian public school society have a lack of awareness of Digital Citizenship areas; ii) teachers' awareness is correlated with the location of public schools; iii) Access to the internet does not relate to DCE perceived competencies of the school society.

Research Methodology

General Background

The presented exploratory study is a part of the fundamental research state grant project "Digital Citizenship in General Education Schools in Georgia: Challenges and Ways of Implementation" (Project Number: 19-SRNSFG-FR-445, project ID: FR-19-7716). The design of the fundamental research state grant project was action research involving three following phases: diagnosing, intervention and monitoring/assessment of the interventions. In this article, the results of the diagnostic stage of action research are presented. The exploratory quantitative research was conducted during the diagnostic phase.

The research questions were related to the study of the current situation of digital citizenship at Georgian public schools and, also, the research questions studied the correlations between respondents' awareness and school location.

Based on the results of the quantitative research presented in this article, the interventions were implemented in the five public schools. The research project was carried out from September 2020 to December 2022.

Research Population and Sample Frame

Georgia's five public schools were the sample of the study. Because of COVID-19 regulations, as well as the limited budget of the research, the sampling process was conducted by means of Cluster Sampling. In the first stage the population, Georgian schools were divided into clusters. Area Sampling is one of the most widespread types of Cluster Sampling. Here the clusters consist of geographical units which can be provinces, regions, or districts. Schools in Georgia are allocated according to regional location. Therefore, they were represented as the general education public schools of Tbilisi, East Georgia, and West Georgia.

After setting up the clusters, none of the schools from any regions were left out of the clusters stated above. Afterwards, the sample was formed within the selected clusters. According to the formation of the sample, cluster sampling can be single-stage, two-stage, or multi-stage. In the case of the current study, the two-stage cluster sampling, namely probability sampling was conducted in proportion with the population. The research group has used the database of schoolteachers and students. The number of respondents is referred to in Table 2.

Table 2
Survey Respondents (N=1954)

Status/School	West Georgia Sachkhere Public School	Tbilisi Public School	Tbilisi Public School	East Georgia Public School	East Georgia Public School	Total
Teacher	39	62	14	64	26	205
Student	173	253	91	354	101	972
Parent/guardian	207	76	50	291	153	777
Sum	419	391	155	709	280	1954

Table 3
The Main Characteristics of the Participants

Participants			
Characteristics	Teachers	Students	Parents/guardians
Age	From 30 to 60 years	From 12 to 16 years	From 35 to 50 years
Gender	The majority - female	Half of them - male, half – female	The majority - female
Level of Education	Bachelor, Master	Students of general education schools	Secondary education, Vocational education, Degrees of Bachelor and Master
Residence	A resident of the same location in which the school is located	A local resident of the same location in which the school is located	A local resident of the same location in which the school is located

Research Instruments and Procedures

To answer the research questions primary sociological information was collected by means of quantitative methods of social research. Specifically, by online questionnaires. The survey turned out to be the most relevant research strategy that could have been used by the research group for collecting information about Digital Citizenship due to the COVID-19 regulations. The research instrument was a self-completion questionnaire.

The starting point of the research instrument applied in this study was a draft questionnaire titled “Council of Europe Survey on Parent’s View of Digital Citizenship” and discussed by the Steering Committee for Education Policy and Practice (CDPPE) in 2019. The reliability of the Questionnaire is presented in the *Validity, Reliability, and Ethics* section. The document was organized into 35 questions that were distributed into three sections: i) general instructions and personal information; ii) perceptions on DCE in general and per digital domain; iii) open question asking respondent opinion on what needs to be done to help children become responsible citizens offline and online. All questions were analyzed and discussed during focus group sessions. The focus-group method was used to collect information from education experts, teachers, and general school students in order to create and adapt quantitative research instruments for describing school community members’ awareness of Digital Citizenship in Georgia.

The focus-group method is often introduced as ‘a group in-depth interview’ and it is used at the initial stage of a research, as the first step of studying an unexplored issue and helps to formulate hypotheses. Apart from that, the information collected during focus-group interviews suggests rich and useful material for creating mass surveys/questionnaires. Particularly, it suggests materials for formulating questions and refining answers to close-ended questions, since the process of focus-group interview demonstrates respondents’ vocabulary and their model of thinking” (Zurabishvili, 2005).

Data Analysis

Statistical analysis has been conducted on the data of the survey with students and parents/guardians. The study was explorative, and its main objective was to analyze respondents’ opinions regarding DCE at schools only at an explorative level. Quantitative data were collected by means of Google Forms. The collected quantitative data was processed by using the SPSS

25 program. Frequencies, percentages, and correlation of respondents' viewpoints about Digital Citizenship were counted. Qualitative data collected by focus-group interviews were analyzed by using transcript-based narrative analyses. After each focus group was completed, notes were taken, and the groups were carefully analyzed. Data was analyzed by the research team. The collected qualitative data was used only for the wording of the quantitative self-completion questionnaire. The objective of the research was not to present analyzed qualitative data in the research report and in the article.

Validity, Reliability, and Ethics

The focus-group interviews mentioned above were conducted with the purpose of elaborating questionnaires. Afterwards, the three questionnaires (intended for teachers, parents/guardians and students) were elaborated and adapted to the Georgian context, having in mind the information gathered and discussed with the National Centre for Teachers' Professional Development, a LEPL of the Ministry of Education and Sciences of Georgia. The questionnaire's draft version included a set of 44 questions, organized into three areas: personal data; ICT use and practices; digital citizenship perceptions. A pilot study was conducted and 30 respondents (10 teachers, 10 parents, 10 students) were interviewed to validate the questionnaires. In order to ensure the reliability of the questionnaire, the aim of the research team was to take into consideration that all the questions presented in the questionnaire were understood by the respondents in the same way. Afterwards, the final instruments were modified but the number of questions and sections remained the same. The content of the questionnaires was adjusted based on these pilot results. The improved instruments were sent to experts in the field to verify their validity and reliability. DCE experts from TPDC evaluated questionnaires and the research team developed the very final version of the instrument. The researcher obtained informed consent from the participants of the focus group and interview to be noted. Participants of the survey were also informed about their complete confidentiality, and they could withdraw from the research at any time if they wished.

Limitations

The main limitation of the study was the COVID-19 pandemic and the problems caused by it. Face-to-face interviews could not be conducted due to the pandemic situation. Every state and educational institution in Georgia was closed and worked online in 2020 when the study was conducted. The research team had to conduct the survey online by using Google Forms and to conduct focus-group interviews online by using ZOOM and TEAMS platforms. Conducting fieldwork online may have had a negative impact on respondents' honesty.

Research Results

As it was revealed from the questionnaire analysis, the respondents' schools and houses were well equipped with internet access and they possessed different kinds of digital devices such as computers and smartphones. However, less than half (49.3%) of the 205 surveyed teachers were aware of the concept of digital citizenship and the results did not differ among schools, since the correlation between the respondents' awareness and school location is not statistically significant (Table 4). The Pearson correlation coefficient is 0.047 which means that the awareness of the teachers about digital citizenship depends on the geographical location of the school only by 4.7%. This means that the geographical location of the school does not have an impact on teacher's awareness about digital citizenship.

Table 4

Correlation Between Teachers' Awareness and School Location (N=205)

		Geographical location of the school	Teachers' awareness about digital citizenship
Geographical location of the school	Pearson Correlation	1	.047
	N	205	205
Teachers' awareness about digital citizenship	Pearson Correlation	.047	1
	N	205	205

It is therefore understandable that only 71 respondents answered the question through which they were asked to choose one or more sentences to define digital citizenship. The most selected one was “A set of citizen's knowledge and skills to use digital technologies effectively” (29 answers), followed by “A person who uses technology by following the appropriate ethics” (22 answers). Other answers were “Knowledge about online safety and cyber security” (5), “Use of social networks” (3), “When you know which information is fake and which is reliable” (2), “When you find out which online game or social network is dangerous” (2), “Effective and targeted use of digital technologies” (1) and “Other” (7).

Even though about one-third of the teachers decided to select possible definitions, all of them felt they needed to develop competences in the area, namely having access to “more information on digital citizenship” (68%), “short videos from experts” (20%), “a webinar in which they can ask questions” (5%) “a web page for teachers” (3%), “training” (1%), “weekly news” (1%) and “other” (2%). This need is even greater among students and parents, since 84% and 80%, respectively, stated that they have not heard about digital citizenship.

Teachers, students and parents were also asked to select the definitions of Digital Citizen that they considered the most reliable among the four options. Teachers' answers show that they are more focused on privacy and security than on interculturality issues or the critical assessment of information available online (Table 5).

Table 5

Teacher definition of Digital Citizen (N=205)

Definitions	N	%
A person who protects personal information placed in a digital space	113	55.1
A person who cares for intellectual property and copyright	92	44.9
A person who is tolerant of intercultural diversities	56	27.3
A person who critically assesses digitally obtained information	42	20.5

Similar tendencies were found among students to whom a digital citizen is “a person who protects personal information placed in a digital space” (37%), “a person who cares for intellectual property and copyright” (29%), “who is tolerant of intercultural diversities” (18%) or “who critically assesses digitally obtained information” (16%). Among parents, 50% considered that a digital citizen is “a person who protects personal information placed in a

digital space”, while the other referred to “a person who cares for intellectual property and copyright” (22%), “who critically assesses digitally obtained information” (17%) or someone “who is tolerant of intercultural diversities” (11%).

After having analyzed the digital citizenship awareness of surveyed teachers, students and their parents/guardians, further results were organized according to the 8 areas defined after having crossed Ribble and Bailey's Model and on DCE Model of the Council of Europe.

Privacy and Security

Based on the information from the research it can be mentioned that in surveyed schools, communication among teachers, parents/guardians and students about privacy and security issues has not started yet. Teachers admitted that they did not have enough competence in this area and therefore, they could not manage to discuss these matters with their students. In addition, they admitted having a lack of digital competences in order to help their students: 96% of respondent teachers were willing to get further information and knowledge about privacy and security, in most cases (67,8%) for prevention, but also “when there is a specific case and I face the problem” (28,3%), while 3,9% of respondents considered they did not need this kind of information because “my students will take care of themselves”. Among students, only 38% believed that they should protect their own as well as other people's personal information.

Apart from the competences, there is a communication issue, as 70% of the teachers say that they have too little information about online life and friends of their students, which opposes to parents and students: 71% of the parents stated that they knew almost everything about online life and friends of their children; 58% of the students stated they told everything to their parents about online life and friends, while only 27% of students gave a negative answer to that question. Nevertheless, 65% of the students surveyed stated that parents did not control their online activities.

Netiquette

Results showed that 58% of public-school teachers, 43% of students and 44% of parents surveyed do not possess information about netiquette but, according to their answers, most of the respondents said they behave according to the Digital Etiquette rules online, such as:

- 65% of the teachers surveyed stated that before posting online, they think carefully about whether their behavior will harm or hurt anyone.
- 82% of the teachers said that they should respect other people's rights when they express themselves online, however, free speech should not be restricted.
- 23% of the students stated that they should treat other people online in the same way as they want to be treated.
- 65% of students answered that before posting online, they think carefully about whether their behavior will harm or hurt anyone.

However, 5% of the teachers admitted that they often post photos and videos where other people are presented, without permission from those people, and another 5% admit that they post students' photos or school life details publicly on social networks.

Media Literacy Education

Media Literacy Education is a complex concept, and because most respondents are not aware of it, the presented research focused the analysis on the general question “What do you consider to be your level of understanding in information-communication technologies?”, whose answers revealed that there is a lot of work to be done in Georgia:

- 41% of the teachers surveyed answered that they understand information-communication technologies, 56% said that they understand “more or less”, and only 3% stated that they understand little about information-communication technologies.
- 42% of the respondent students considered that they understand information-communication technologies, 52% said that they understand “more or less” and 6% admit that they understand little in information-communication technologies.
- 34% of the respondent parents/guardians considered that they understand information-communication technologies, 60% said that they understand “more or less” and 6% answered that they understand little in information-communication technologies.

Ethical participation

Facing the question “If you open the social network on a public computer and it turns out that the person who has used the computer has not logged out of their account, what would you do?”, teachers gave the following answers:

Table 6
Ethical Participation of the Respondents (N=205)

Answer items	%
If I find a social network profile, I will log out of the profile and log into mine	70
If I find a social network profile, I will not do anything and use another computer	2
If I find a social network profile, I will post on the timeline of this social network in order that some of the friends of this person find out about the situation	3
If I find a social network profile, I will send them a personal message and give advice to be more careful next time	24

Similar answers were given by the students, as 61% will log out and log in to their own accounts, and 31% said that they will inform the user about the situation and offer advice to change password and protect online safety. Among parents, 66% will log out and only after that log in to their account, while 28% said that they will send a message to the user and suggest being more careful in the future.

Inclusive access

The questionnaire offered three possibilities to define inclusive access, being the first and more correct one (“equal access to any kind of online activity despite the obstacles”) was chosen by 53% of teachers, while “access to the information on the internet any place any time” was selected by 40%, and “is a skill to upload information on the internet from any place and any time” was the option marked by 6% of teachers who responded to the questionnaire. Internet access does not seem to be a general problem in Georgian schools, as 92% of teachers stated that their school has reliable Internet access and only 8% gave a negative answer. A similar situation occurs in Georgian households, where 96% of parents and 95% of students stated that they have internet access at home. In addition, 96% of students own a gadget (tablet, laptop, mobile phone/smartphone, personal computer) connected to the Internet and 92% own a smartphone.

Consumer awareness

School communities that have been studied during the research did not offer information to the students about consumer awareness, and the discussion about the area has not yet started in the studied schools, as the respondents lack sufficient and correct information about the issue.

Health and Well-being

Most teachers (82%) admitted that their students own a smartphone and 52% have at least one social network account, even those under-13's, who have not reached the proper age yet. 96% of them were also aware of the existence of dangerous violent games and suicidal online challenges (e.g., "1", "Momo Challenge, "Blue Whale"). However, 46% of teachers pointed out that they do not pay attention to their students' activities on social networks, and they do not talk to the students about online games and possible risks.

Concerning the use of gadgets at school, the only limitation and guide for 55% of the teachers is linked to the time frame. Teachers mainly pay attention to time spent on the internet, but only 3% tell their students not to talk to strangers online, 2% tell their students to critically assess online information, 3% tell them to respect other people and their online life and only 4% of respondent teachers instruct their students that mobile phone numbers and other kinds of personal information should not be posted public on social network.

The study has shown that 73% of students in surveyed schools possess smartphones before they reach 7th-9th grade and 45% of students said that on average they spend more than four hours on the internet every day. Almost all students (97%) use social networks and 39% of them have a Facebook account before the age of 11. One third of the students who have social network accounts stated that parents do not pay attention to their children's activities on the social network. And when they do, students declared that parents only control time online and do not go any further, for instance, they do not control the online content. Nevertheless, 52% of students indicated that they talk with their parents about online activities only when a parent gets interested.

Students' perceptions are confirmed by their parents, according to whom (82%) their children use personal smartphones. Seven in ten parents stated that they have given these gadgets to their under-13 children and 84% said that their children use social networks, even the under-13 (37%). Three out of four parents said that their gadgets and their children's gadgets do not include filters such as search browsers, and utilities to block inappropriate websites for a certain age. And 6 in 10 parents have not developed a family agreement about internet use at home, while 40% of the surveyed parents do not control their children's online time at all.

Rights and Responsibilities

Most teachers surveyed have not participated yet in civic events or in petitions that concern their rights as a citizen and digital citizens. The percentages are even lower among parents (9%) and students (3%), which points to the urgent need to improve participation through media, aiming to improve the state of Digital Citizenship in general education schools. Characteristics of the society may have an effect in this case as well. In Georgian society, citizens rarely participate in civic activities that concern their rights and responsibilities.

Regarding the perceptions about the freedom of expression, there are differences among the surveyed groups, as 82% of teachers pointed out that it is crucial to protect human rights without restricting the right to express themselves, and only 7% refer that the freedom of expression will have no limits or having it depending on the social status (6%) on age (5%). Among parents, 58% stated that human rights are key and must protect freedom of expression

while the others think that self-expression has no boundaries (14%). Most students (58%) indicated that freedom of expression is a right that can be fully exerted depending on the age of the individual, while 30% align with the view that both human rights and freedom of expression must be protected.

Discussion

Similar to the results of the presented study, current studies related to the issue confirm that in the contemporary world, it is true that schools are well equipped with digital technologies, and teachers, students and parents have access to the quality of technologies that they had never had before, but this does not guarantee that they are empowered digital citizens (Ribble, 2015).

It can be assumed that the quality of internet access did not have an effect on awareness about Digital Citizenship in the target schools. Digital Citizenship, as a new field, has not been implemented in the Georgian general education environment yet, despite the high level of access to the internet and technology for schools and students' households.

Studies confirm that even in advanced countries in the direction of digital citizenship education, there is low digital awareness in the school community, for example, a study conducted in the Philippines in 2019 confirms unfavorable results in this regard, among students, teachers, and school administration representatives (Suson, 2019).

The finding of the researchers at the University of North Carolina is of particular interest according to which educators rate students' digital skills as "not well" in most cases (Martin et al, 2019). Ribble (2015) suggests that schools globally acquire technologies but only a small number of students are taught to use these technologies in a way that can be useful for them, as digital citizens in the future.

Based on the obtained data and the results of the research studies conducted outside Georgia, it can be concluded that students in Georgia and from all over the world share sensitive and personal information only on web-sites with clearly defined digital safety rules (Ribble, 2015) when teachers and educators have specialized knowledge in computer security in order to deliver teaching focused on digital security (Skutil, 2014). Therefore, teachers and school administration should be trained in a way to realize the importance of awareness of Digital Citizenship and the competencies of a Digital Citizen not only for certain people but for every student and every family (Ribble, 2015).

It is true that the presented study revealed the low competence of digital citizenship of teachers and parents, but parents, unlike teachers, were interested in their children's online life. The indifferent attitude of teachers towards students' online life can be explained by the fact that teachers do not consider their responsibility and duty to take care of students' digital well-being. A number of current studies emphasize the importance of not only having digital competences for the 21st-century teacher but also their role in properly managing the digital life of students (Falloon, 2020).

According to the research results, there was a gap between the responses of students and their parents when the issue was connected with having information about their children's online life and controlling their online activities.

On the one hand, the majority of interviewed parents said that they knew their children's online life, on the other hand, according to the majority of interviewed students, parents were less interested in their online life.

Presumably, this can be explained by the situation, that parents became more aware of online dangers and saw their children's reverse reaction to prohibitions and directive attitudes in general, especially during the COVID pandemic.

Thus, their behavior and parenting style became more democratic, based on collaboration and commitment. Whereas, children, taking into account their previous experience, equate

parental interest only with directive control. Whereas children, taking into consideration previous experience, only direct control is considered as parents' interest.

A number of studies confirm the effectiveness of a supportive parental approach to preventing or dealing with online risks, as opposed to control or prohibition (Schiffrin et al., 2014; Karabanov et al., 2021). The presented study also showed that most of the respondents did not understand the meanings of the terms at the level of the names, but their online behavior was mostly acceptable, which is probably similar to their behavior in real society.

This opinion is shared by Ribble (2015) who suggests that people are members of a particular society where they live and if this society has certain features, for example, if breaking a specific rule is allowed or restricted, the members of the society behave the same way in digital space. The respondents probably do not have information about netiquette, but in the society where they live people care for other people's rights. Respectively, they behave the same way in the digital environment - they follow the rules of the digital world, and they adhere to the conventions, and expectations, the majority of which are unwritten (Hollandsworth et al., 2011; Suson et al., 2020).

It is significant that the answers given by the students were similar to the answers given by the teachers and parents. It confirms once again that the influence of teachers and parents on student values and behavior is rather high.

By categorizing James's ethical understanding, it can be discussed the moral behavior of the respondents. James categorizes ethical understanding into three types: (i) A self-focused implies focusing on one's self of a particular action. It is consequence-based thinking, (ii) Thinking about others (friends, family, classmates, etc.) is considered to be moral thinking. (iii) The final type of thinking is ethical, which involves thinking about unknown others. It is macro morality and refers to ethical thinking on the effects of what one's actions have on the larger community. This type of thinking involves complex perspective taking and understanding of roles and responsibilities in online interactions (James, 2014). If we rely on this categorization, a high share of the respondents (on average 72%) had *Self-Focused Understanding* values. While only 28% of the respondents focused on narrow and wide circles of *Moral* and *Ethical Thinking*. The result leads us to the conclusion that the general education system should care about the development of Digital Etiquette as a value in a school community.

Despite the fact that in the direction of digital citizenship development in Georgia, most of the emphasis is on the development of media literacy which is revealed by introducing media literacy as a cross-curricular competence into the national curriculum, preparing a number of methodical literature and practical guides, offering trainings and other professional development activities for the employed in the field of education, there is still lack of this competence. The respondents emphasized this issue in their self-assessment. This problem is confirmed by other studies conducted in Georgia recently (Levitskaya, Seliverstova, 2020; Osepashvili, 2023).

Therefore, first of all, the education system of Georgia should take care of the development of media literacy competences among teachers because competent teachers will help students to develop high-standard online literacy skills and understanding the fundamentals of computer and gadgets use such as email, search engines and producing students prepared to be more effective contemporary workers (Curran & Ribble, 2017).

Having the competence of media literacy is especially important in reality when young people spend a lot of time online and have to deal with a large amount of unfiltered information. The current study has revealed that adolescents spend much time on the internet, with the absence of control of time spent on the internet and, what is more important, the absence of content control by parents and teachers. A number of studies confirm that "Adults are an extremely vulnerable social group" (Miller & Prinstein, 2019, p. 425). High levels of stress during adolescence are less properly processed, often causing emotional overreactions. This makes adolescents very sensitive to harmful media depictions in a digital world: "Because

of their limited capacity for self-regulation and susceptibility to peer pressure, children and adolescents are at some risk as they navigate and experiment with social media” (O’Keeffe & Clarke-Pearson, 2011, p. 800). Also, studies confirm a rather high level of unfavorable influence of social media (Youtube, Tiktok, etc.) on adolescents. The rate of sharing and viewing of the Momo Challenge on Youtube can be stated as an example. The most watched video attracts more than 11 million adults. Even for YouTube standards, these are very high engagement rates” (Kobilke & Markiewicz, 2021). For this reason, the role of school and family is crucial in protecting the new generation from temptation. This can be achieved on the one hand, by setting a relevant filter on the gadgets and on the other hand, through open communication about using social media and navigating properly. All this would be significant for preventing the threats mentioned above (Kobilke & Markiewicz, 2021).

According to the study of Freedom House (2022), while online rights are nominally protected in the constitution and legal framework, in general, Georgian digital citizens are less likely to participate in social and civic activities online, though the right to access information and freedom of expression are also guaranteed by the constitution and are usually respected in practice. Although the Georgian online audience has grown significantly from 2010 to 2020, there are few bloggers and influencers who create content that influences the political or social debate or sparks widespread discussion online. In general, most of the debates and discussions on digital rights and responsibilities are held on social media through public and private groups.

As Digital Citizenship Education is a relatively new field in the Georgian context, the discussion about some areas, such as consumer awareness has not yet started in the studied schools. However, if teachers want to empower their students as digital citizens, this is one of the most important issues (Suson, 2019). Anyone who works, plays, or buys objects online is not only a member of digital society, but also an economically active person. Apart from that, students should acknowledge that their online activities may have an effect on their lives (for example, their account may be blocked because of credit card debt etc.). If teachers want to help their students become fine citizens, they need to equip them with knowledge and information about Digital Economics and Commerce (Ribble, 2015). Therefore, knowledge about digital commerce should be introduced into schools and should be adapted to students, in order that they become responsible digital citizens.

2021-2024 Georgian National Strategy of Cybersecurity as well as an action plan of the strategy was elaborated. One of the main objectives of the action plan is to enhance the skills needed for operating safely and securely in cyberspace and raising the level of education for students and schoolchildren. To meet the objective mentioned above, the following function was determined for the Ministry of Education and Science: introducing digital citizenship at all three levels of general education (primary, basic, and secondary). Amendments were made in the third edition of the National Curriculum of General Education (2018-2024) where the Cybersecurity Strategy and the requirements of the strategy were depicted. The respondents interviewed did not have information about the amendments as long as the field work was conducted in 2020. If the amendments to the National Curriculum had been made in 2020, interviewed teachers should have been more informed about the issue. According to Ribble, it is crucial that a country has cyber legislation, and it is also important that teachers, students and parents/guardians get acquainted and become aware of the legislation (Ribble, 2015) to be safer in online life and, at the same time, to become responsible digital citizens.

Conclusions and Implications

Since digital citizenship is a novelty in the Georgian context, the legal base is scarce in this direction. Concerning cyber security strategy and action plan that covers the years 2021-2024, the research respondents would not be able to have information about it, as the field work

of the research was conducted in 2020. Consequently, the quantitative study did not reveal the awareness of teachers, students, and parents in terms of digital legislation.

Concerning digital security, even though the majority of the interviewed teachers have heard about the dangerous violent games/suicidal online challenges (e.g., “1”, “Momo Challenge”, “Blue Whale”), the teachers did not pay attention to students’ activities in social media. The above-mentioned fact may reflect their level of digital citizenship and lack of information. Additionally, parents were not able to set family agreements about the safe use of the Internet. Therefore, the study has shown that school teachers and parents were in need of instruction and raising awareness in terms of digital security.

According to the research data, it can be concluded that conversation and communication between school teachers, students and parents about the issues of digital security has not started yet. The survey has revealed that the school teachers have a lack of awareness of digital security issues and hence they cannot manage to have conversations with students about that matter. A complete majority of the surveyed teachers asked for additional instruction in terms of digital security. Therefore, it was not unexpected that surveyed school teachers lacked information about digital Etiquette.

Half of the surveyed teachers lack awareness of information-communication technologies, but this fact is not correlated to the geographic location of a school. Also, it was revealed that half of the teachers had not heard about digital citizenship and this fact was not correlated to geographic location as well.

Teachers in Georgian public schools have a lack of awareness about Digital Citizenship and Digital Etiquette and their awareness is not correlated with the location of public schools. The results also showed that teachers, students and parents surveyed have Internet access and that there are digital devices available in schools and households, pointing out that the lack of DCE awareness is not related to the low access. It is important to mention that the Georgian Ministry of Education and Science has supplied school students with personal netbooks since 2011. As it turns out, the access to technologies does not directly relate to the development of the DCE competences in the Georgian context.

The study has shown that the issues of Digital Commerce, Digital Health and Wellness were unfamiliar to the surveyed respondents. In the end, the study has revealed that at this stage, the teachers, students and parents did not participate in civic activities that will enhance digital citizenship in general education institutions.

As Digital Citizenship is a new field in the Georgian context, data collected through this study in 2020 showed that the country needs to review its legislation, policies and practices and learning frameworks, aligning them with the Recommendation on Digital Citizenship Education signed by all the member-states in 2019. It is, however, important to point out that the strategy and action plan of cyber security, two documents elaborated by the Georgian government and under application between 2021 and 2024 could be understood as a way forward and its implementation shall be monitored regularly, as the Council of Europe’s recommendation proposes.

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Declaration of Interest

The authors declare no competing interest.

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Sofiko Lobzhanidze
(Corresponding author)

Doctor of Pedagogical Sciences, Expert-consultant of National Center for Teacher Professional Development, Georgia.
Professor, Ilia State University, Georgia.
E-mail: sopiko_lobjanidze@iliauni.edu.ge
ORCID: <https://orcid.org/0000-0002-5429-3369>

Giorgi Urchukhishvili

Master in Sociology, Monitoring coordinator, National Center for Teacher Professional Development, Georgia.
Invited Teacher, Ilia State University, Georgia.
E-mail: gurchukhishvili@tpdc.ge
ORCID: <https://orcid.org/0009-0004-6745-5779>

Marika Sikharulidze

Master in Humanities, Digital Citizenship Specialist, USAID Civic Education Program, PH International, Invited Teacher, Ilia State University, Georgia.
E-mail: marika.sikharulidze@ph-int.org
ORCID: <https://orcid.org/0009-0007-4314-496X>



PERCEIVED SELF-EFFICACY AND COURSE SATISFACTION IN STUDENTS PREPARING FOR TEACHING CAREERS

Elena-Ancuța Santi, Gabriel Gorghiu

Valahia University Târgoviște, Romania

E-mail: santi.anca84@gmail.com, ggorghiu@gmail.com

Costin Pribeanu

Academy of Romanian Scientists, Romania

E-mail: costin.pribeanu@gmail.com

Abstract

Self-efficacy is an important variable that explains students' behavior of engaging in school activities and persevering in the face of academic challenges. High confidence in personal competencies and in the ability to successfully accomplish a particular task or a certain goal, acts as a stimulating factor of mental resources (cognitive, affective, motivational, volitional), contributing to students' success. In an educational context, the development of self-efficacy can be both a means of facilitating high achievement, but also an end in itself, a prospective goal of education. Perceived self-efficacy plays a major role in understanding how students perceive and experience academic courses. This research aims to identify the extent to which perceived self-efficacy with the course influences students' satisfaction with the class as a prerequisite for learning and academic performance. A structural model was developed and tested on two samples of students enrolled in the Psychoeducational Training Program, to prepare for the teaching career. The research results show that there is a significant relationship between perceived self-efficacy with the course and satisfaction with the class. Understanding this relationship, several educational implications can be formulated for the development of students' academic self-efficacy; by recognizing the main indicators of low self-efficacy, teachers can implement specific strategies and interventions to optimize students' self-confidence and performance.

Keywords: academic self-efficacy, computer self-efficacy, self-regulated learning, social self-efficacy

Introduction

In the field of educational sciences, there is a constant concern about the knowledge and stimulation of the factors involved in learning, which makes the field of research for teachers inexhaustible and dynamic. Self-efficacy, a psychological construct intensively studied by psychologist Albert Bandura in his Social Cognitive Theory (1986), is an important variable in the educational context, which can provide valuable answers from the perspective of optimizing the educational process.

Self-efficacy is a multifaceted phenomenon (Bandura, 1997, p. 42) that refers to the perceived capability of successful completion of a task (Bandura, 1977, 1986, 1997). As several studies pointed out, self-efficacy is a key element that explains human behavior and has a major impact on the important variables in four categories of mental processes: cognitive, affective, motivational, and selection processes (Bandura, 1993; Schunk & DiBenedetto, 2021). Thus, problem-solving, decision-making, persistence, effort resistance, coping with stress and anxiety, goal achievement, and performance are positively influenced by beliefs about one's own effectiveness.

Self-efficacy in a domain correlates with performance in specific activities in that domain. There is general self-efficacy, the belief that you can succeed, but there are also specific forms of self-efficacy, such as social, academic, entrepreneurial, sporting, health, and artistic self-efficacy (Bandura, 1997).

Bandura (1997, p. 37) stated that perceived self-efficacy does not depend on the number of abilities a person has but refers to what he believes he can do with his own potential in different contexts. Also, a high level of perceived self-efficacy in one area does not guarantee the same level in other areas (Bandura, 1997, p. 42).

In the educational context, students' belief in their academic capabilities determines aspirations, motivation levels, and academic accomplishments (DeFreitas & Bravo Jr., 2012; Schunk et al., 2008). Bandura (1991) has stated that high levels of perceived self-efficacy are directly proportional to the high challenges and goals people set and their commitment to them. It also influences the anticipatory scenarios that people construct for themselves: those with high levels of perceived self-efficacy visualize anticipatory scenarios of success, which is internal support toward achievement. Perceived self-efficacy is also an important emotional mediator in managing stress and developing resilience.

Kryshko et al. (2022) pointed to several higher education research studies showing that self-efficacy is positively related to academic success, satisfaction, and perseverance and negatively correlated with procrastination. In a research study conducted by Schwarzer and Hallum (2008) teachers' perception of self-efficacy was an important factor in reducing professional stress and preventing burnout.

Understanding the importance of self-efficacy in learning is essential to improve the quality of education and to identify key variables of academic success. Most studies that have researched this topic have mainly focused on the importance of self-efficacy in online learning.

There is very little work examining the correlation between self-efficacy with the course and course satisfaction. Consequently, this research aimed to understand the extent to which students' perceived self-efficacy influences satisfaction with the course. The model was tested on two samples from Romania.

Background and Conceptualization

Background

The paradigm of student-centered education in the university environment places the student at the center of the educational process, with his needs and interests, with his unique and individual particularities, who actively participates in the construction of knowledge and have responsibility and autonomy in learning. In this context, student satisfaction is a premise of their involvement and engagement in learning behaviors. Lo (2010) showed that a high level of student satisfaction is associated with better learning. According to the author, student satisfaction refers to their subjective perceptions of three indicators of the learning environment that support academic success: instructor performance, student self-commitment to learning, and course policies.

In general, higher education institutions value student satisfaction (Douglas et al., 2015) with the learning environment and the quality of educational processes as an important indicator of the quality of education offered (Bayrak et al., 2020). In Romania, most universities are concerned with students' satisfaction in relation to the offered programs, educational process, teaching staff professionalism, resources and educational climate, academic community, extracurricular learning opportunities, and other services or offered conditions. It is important to underline that student satisfaction is often measured in relation to a particular course (Gibson, 2010; Green et al., 2015). In this respect, essential variables are offered by the course

content, the language used, information update, and effective teaching process (Munteanu et al., 2010), but also the particular level of training of the teaching staff and its availability and involvement in the entire teaching demarche (Băcilă et al., 2014). Near the course content and the organization of the teaching process, Arnerić et al. (2010) take into consideration the level of course acceptance and the practical implementation of the skills gathered by students.

Overall, the factors that influence the satisfaction of students preparing for teaching careers are numerous, but this study does not attempt to exhaustively identify and analyze them; in this research, we are interested in how self-efficacy with the course, operationalized into three variables - social self-efficacy, self-efficacy with self-regulated learning, and computer self-efficacy - influences satisfaction with the class. Doménech-Betoret et al. (2017) showed that students' perceived academic self-efficacy indirectly affects their satisfaction through the fulfillment of the latent variable expectancy-value beliefs, and other studies have shown that self-efficacy in online learning is a strong predictor of student satisfaction (Prifti, 2022; Shen et al., 2013).

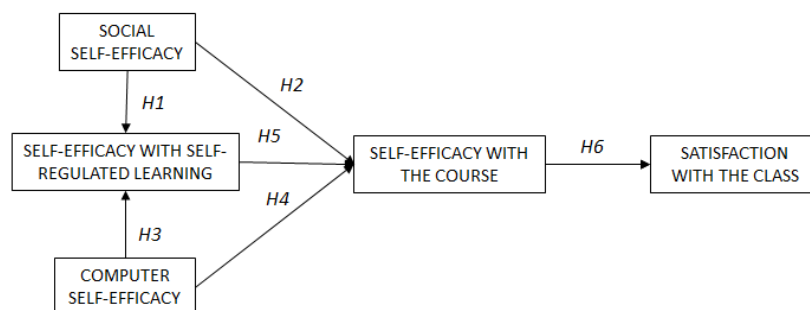
Most research in this field has analyzed student satisfaction in relation to several external conditions and factors related to the educational environment, affective climate, quality of teaching, interaction with teachers and peers, development opportunities offered, or the specifics of the course (content, course design, the quality of learning materials, applicability, usefulness, etc.), but student satisfaction is also related to internal variables, such as perceived self-efficacy towards the course. When the learner has the belief that he/she can complete specific learning tasks, he/she will be more motivated and perseverant in overcoming obstacles and achieving good results. This belief in personal success correlates with the student's self-esteem and intrinsic motivation and is built gradually through the interpretation of information received from four main sources of influence: enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states (Bandura, 1997, p. 79).

Teachers play a major role in developing students' self-efficacy by encouraging them and showing confidence in their ability to perform, through constructive feedback, appreciating the effort, providing support, and creating a positive learning environment. The benefits of developing self-efficacy are felt in individual performance, setting high goals, intrinsic motivation, personal achievement (DeFreitas & Bravo Jr., 2012; Schunk et al., 2008), well-being, stress resilience, educational acquisition, as an important element in building a resilient and balanced personality profile.

Research Model and Hypotheses

Academic self-efficacy is a multifaceted phenomenon (Bandura, 1997, p. 42) and manifests in several dimensions specific to academia. This research model relates satisfaction with the class with self-efficacy with the course. In turn, self-efficacy with the course is influenced by social self-efficacy, computer self-efficacy, and self-efficacy with self-regulated learning. The proposed research model is presented in Figure 1.

Figure 1
Research Model



Self-efficacy with the course (SEC) refers to confidence in one's ability to take notes during class instruction, understand course literature, and perform well on class assignments.

Social self-efficacy (SSE) refers to confidence in one's ability to engage in social interaction tasks to develop or maintain positive interpersonal relationships (Smith & Betz, 2000, p. 286). Social self-efficacy links an individual's relationships and self-efficacy (Gazo et al., 2020) and includes skills such as participation in social activities as a member of a group, social initiative, friendly behavior patterns, and receiving and offering help (Gazo et al., 2020).

Social self-efficacy is a key aspect of social academic behavior. Students with high levels of social self-efficacy adapt and integrate easily into groups, develop social relationships with peers and relate appropriately to professors, are effective in group work tasks, value social-emotional skills (empathy, managing their own emotions, understanding the emotions of others), and develop a sense of belonging to the academic community. Akin and Akin (2016) showed that a high level of students' social self-efficacy correlates with life satisfaction. Social self-efficacy can affect the quality of individuals' interpersonal interaction, which is why it plays an important role in educational settings. In the present research, social self-efficacy (SSE) refers to how well students participate in class discussions, how well students can ask a question in class, and how well students can talk with professors.

H₁ Social self-efficacy has a positive influence on self-efficacy with self-regulated learning (SSE → SEA)

Self-efficacy with self-regulated learning refers to the students' belief in their ability to self-regulate the learning process and to have an autonomous and active role in their own learning process: monitoring, controlling, and adapting strategies to achieve good results and their proposed goals. Self-regulation of learning is a complex process that involves the use of cognitive and metacognitive, motivational, and attitudinal strategies (Zimmerman, 1990, p. 4), as well as the ability to self-reflect. In the present research, self-efficacy with self-regulated learning (SEA) refers to how well students can finish homework assignments by deadlines, how well students can organize their schoolwork, and how well students can focus on school subjects.

H₂ Social self-efficacy has a positive influence on the self-efficacy with the course (SSE → SEC)

Computer self-efficacy (CSE) refers to individuals' beliefs about their abilities to competently use computers (Compeau & Higgins, 1995). The results of a recent study (Zhao & Zhao, 2021) showed that perceived self-efficacy in computer use is characteristic of the

digital native generation and is related to the main factors proposed in the original technology acceptance model (TAM). In the present research, computer self-efficacy (CSE) refers to how well students can use a learning platform even if there is no one to teach them, if they can use a learning platform with minimal help, and if they can learn how to use a learning platform on their own.

H₃ Computer self-efficacy has a positive influence on self-efficacy with self-regulated learning (CSE → SEA)

H₄ Computer self-efficacy has a positive influence on the self-efficacy with the course (CSE → SEC)

H₅ Self-efficacy with self-regulated learning has a positive influence on self-efficacy with the course (SEA → SEC)

Satisfaction with the class refers to the degree to which students are satisfied with the fulfillment of their needs and expectations in that class. Student satisfaction with the class is the feeling of being pleased (satisfied) when one's expectations about class activities (learning outcomes, knowledge products, skills developed, cognitive acquisitions, relationship development, collaboration, projects, emotions and feelings, and others) are met. Fitriati et al. (2017) cited by Saroh and Arifmiboy (2022) stated that customer satisfaction is a feeling of contentment or disappointment felt as a result of evaluating perceived performance or products against the expectations held. In academia, the customers/ beneficiaries are the students, and the students' satisfaction is an important factor in achieving and maintaining a high level of performance (Saroh & Arifmiboy, 2022).

In the present research, satisfaction with the class (SAT) refers to students' feelings of contentment generated by the fulfillment of personal expectations towards the class and their perception of the contribution of the course to their personal and professional development.

H₆ Self-efficacy with the course has a positive influence on satisfaction with the class (SEC → SAT)

Research Methodology

General Background

Data has been collected at Valahia University of Targoviste. The participants came from two categories of courses so for each category, a separate sample has been collected.

Students have been asked to answer several general questions regarding age, gender, faculty and specialization, year of study, and discipline/course followed in the first semester of the 2022-2023 academic year, and then to evaluate the items on a 5-point Likert interval scale. The name or student ID has not been asked to ensure anonymity.

Samples

1st sample

The sample of students enrolled in the first year who complete, in parallel with the courses of the chosen specialization, also the courses that prepare and certify them for the teaching career, was formed by 146 students, 55 male, and 91 female, mostly between the ages of 19-29, randomly distributed among several faculties and specializations within the Valahia University: Faculty of Political Sciences, Letters and Communication, Faculty of Law and Administrative Sciences, Faculty of Orthodox Theology and Educational Sciences, Faculty of

Sciences and Arts, Faculty of Humanities, Faculty of Environmental Engineering and Food Science, Faculty of Materials and Mechanics Engineering, Faculty of Electrical Engineering, Electronics and Information Technology, Faculty of Economic Sciences. As regards the course/discipline of study from the curriculum of the Psychopedagogical Training Program in the first semester, the students participated in the *Educational Psychology* course.

2nd sample

This sample consisted of 180 students (43 male and 137 female), enrolled in the third year of study of their license programs of the abovementioned faculties, but also included students from master programs in Education, the second year of study, coming from the Faculty of Orthodox Theology and Educational Sciences. As regards the course/discipline of study, the licensed students participated in the *Computer Assisted Instruction* course, and the master students were involved in the *Virtual Environments for Education* and *Didactics of the Domain* courses - disciplines with pronounced technical issues. Taking into account that master students are part of the sample, their ages varied between 21 to 50 years old.

Instrument

The constructs and measures are presented in Table 1. The measures have been adapted from the existing scales in the literature (Bandura, 2006; Martin & Marsh, 2006; Greco et al., 2012; Filippou, 2019), following the respective phrasing (either question or statement). All items are evaluated on a 5-point Likert scale.

Table 1
Measures

SEA	Self-efficacy with self-regulated learning
SEA1	How well can you finish homework assignments by deadlines?
SEA2	How well can you organize your schoolwork?
SEA3	How well can you concentrate on school subjects?
SEC	Self-efficacy with the course
SEC1	How well can you understand course literature?
SEC2	How well can you write essay papers and assignments?
SEC3	How well can you take notes of class instruction?
SSE	Social self-efficacy
SSE1	How well can you participate in class discussions?
SSE2	How well can you ask a question in class?
SSE3	How well can you talk with professors?
CSE	Computer self-efficacy
CSE1	I can use a learning platform even if there is no one to teach me
CSE2	I can use a learning platform with minimal help
CSE3	I can learn how to use a learning platform on my own
SAT	Satisfaction with the class
SAT1	Overall, I am satisfied with this class
SAT2	This course contributed to my educational development
SAT3	This course contributed to my professional development

Data Analysis

The model was analyzed with Lisrel 9.3 for Windows (Mels, 2006), using the maximum likelihood estimation method. A two-step approach has been undertaken according to the recommendations from the literature (Anderson & Gerbing, 1988): (1) test the measurement model to analyze relationships between a construct and its measures, including construct validity, and (2) test the structural model to analyze relationships between constructs and check hypotheses.

Convergent validity has been assessed according to the recommended thresholds from the literature (Fornell & Larcker, 1981; Hair et al., 2006), as regards loadings magnitude (greater than 0.5), construct reliability (composite reliability, CR greater than .7), and average variance extracted (AVE, greater than 0.5). Discriminant validity has been assessed through the squared correlation test (Fornell & Larcker, 1981).

The model fit with the data has been assessed by using the following goodness of fit indices (Hair et al., 2006): chi-square (χ^2), degrees of freedom (df), χ^2/df , comparative fit index (CFI), non-normed fit index ($NNFI$), the goodness of fit index (GFI), root mean square error of approximation ($RMSEA$), and standardized root mean square residual ($SRMR$).

Research Results

Model Testing Results: First Sample

The goodness of fit indices (GOF) indicated a good level of fit of the measurement model with the data: $\chi^2 = 119.63$, $df = 80$, $p = .003$, $\chi^2/df = 1.50$, $RMSEA = 0.058$, $CFI = 0.966$, $NNFI = 0.955$, $GFI = 0.905$, $SRMR = 0.0553$.

The model has been analyzed for unidimensionality and convergent validity. The descriptive statistics and factor loadings are presented in Table 2.

All factor loadings are over .6 thus showing the unidimensionality of constructs. The mean values are over the neutral value of 3.00, which indicates a high perception of self-efficacy and satisfaction with the class. The observed scores for satisfaction with the class are over 4.50, much higher than the observed scores for self-efficacy.

Table 2

Descriptives and Factor Loadings (N = 146)

Item	M	SD	Loading
SEA1	3.95	1.03	.71
SEA2	3.85	0.94	.94
SEA3	3.90	0.85	.72
SEC1	3.98	0.79	.65
SEC2	3.92	0.85	.81
SEC3	3.73	0.90	.85
SSE1	3.62	1.05	.71
SSE2	3.75	1.07	.88
SSE3	4.14	0.91	.85
CSE1	4.15	0.99	.84
CSE2	4.09	0.98	.63
CSE3	4.00	1.01	.85
SAT1	4.73	0.57	.74
SAT2	4.75	0.53	.94
SAT3	4.66	0.63	.73

The convergent validity of constructs for the first sample is very good since the composite reliability (*CR*) and average variance extracted (*AVE*) are over the cut-off values of 0.7, respectively 0.5 (Fornell & Larcker, 1981). The discriminant validity is also good since the square root of *AVE* exceeds the correlation between constructs.

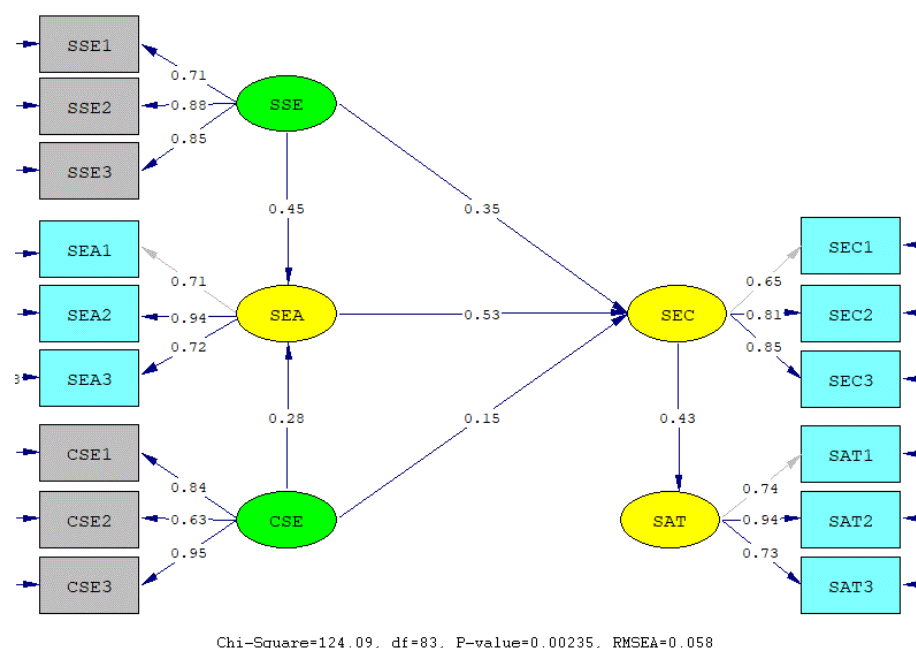
Table 3
Convergent, and Discriminant Validity (N=146)

	CR	AVE	SEA	SEC	SSE	CSE	SAT
SEA	.837	.635	.797				
SEC	.817	.600	.775	.775			
SSE	.856	.667	.527	.662	.817		
CSE	.821	.608	.412	.473	.295	.780	
SAT	.849	.655	.357	.395	.410	.219	.809

Note: The bold diagonal numbers represent the square root of AVE

The fit of the structural model with the data is also good, as shown by GOF indices: $\chi^2 = 124.09$, $df = 83$, $\chi^2/df = 1.50$, $CFI = 0.965$, $NNFI = 0.955$, $GFI = 0.903$, $RMSEA = 0.078$, $SRMR = 0.0584$. The model estimation results for the first sample are presented in Figure 2.

Figure 2
Model Estimation Results – First Sample (N = 146)



Social self-efficacy has a significant positive influence on both self-efficacy with self-regulated learning ($p < .001$) and self-efficacy with the course ($p < .001$) so H1 and H2 are supported. Computer self-efficacy has a significant positive influence on both self-efficacy with self-regulated learning ($p < .001$) and self-efficacy with the course ($p = .032$) so H3 and H4 are also supported. H5 and H6 are also supported since the paths from SEA to SEC ($\beta = .53, p < .001$) and from SEC to SAT ($\beta = .43, p < .001$) are significant.

The model explains a 35.1% variance in self-efficacy with self-regulated learning, 72.4% in self-efficacy with the course, and 18.4% in satisfaction with the class.

Model Testing Results: Second Sample

Testing the measurement model showed a good level of fit of the model with the data: $\chi^2 = 111.12, df = 80, p = .012, \chi^2/df = 1.39, RMSEA = 0.048, CFI = 0.976, NNFI = 0.968, GFI = 0.927, SRMR = 0.0522$.

The descriptive statistics (mean, standard deviation and factor loadings are presented in Table 4.

Table 4
Descriptives and Factor Loadings (N=180)

Item	<i>M</i>	<i>SD</i>	Loading
SEA1	3.68	1.04	.69
SEA2	3.71	0.99	.86
SEA3	3.74	0.89	.66
SEC1	3.77	0.93	.68
SEC2	3.82	0.85	.70
SEC3	3.58	0.83	.72
SSE1	3.64	1.06	.67
SSE2	3.67	1.08	.79
SSE3	3.89	0.97	.86
CSE1	4.07	0.99	.78
CSE2	4.17	0.93	.74
CSE3	3.92	1.07	.76
SAT1	4.26	0.84	.84
SAT2	4.30	0.87	.88
SAT3	4.29	0.88	.91

The mean values are over the neutral value of 3.00, which indicates a high perception of self-efficacy and satisfaction with the class. The observed scores for satisfaction with the class are over 4.25, higher than the observed scores for self-efficacy. All factor loadings are over 0.6 thus showing the unidimensionality of constructs.

The convergent validity for the second sample is very good since the composite reliability (CR) and average variance extracted (AVE) are over the cut-off values of .70, respectively .50 with one minor exception. The discriminant validity is also good since the square root of AVE exceeds the correlation between constructs, with one minor exception.

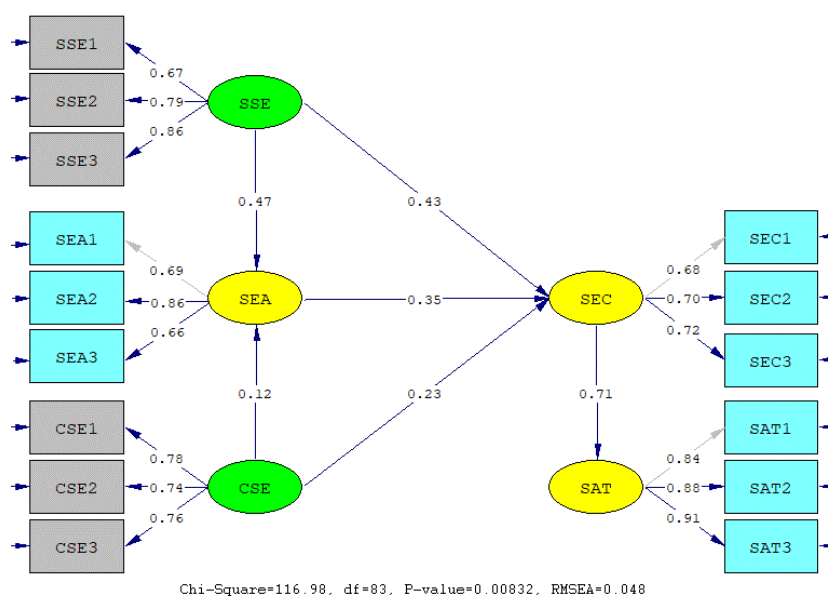
Table 5
Convergent, and Discriminant Validity (N = 146)

	CR	AVE	SEA	SEC	SSE	CSE	SAT
SEA	.784	.550	.742				
SEC	.743	.490	.661	.700			
SSE	.819	.604	.511	.694	.777		
CSE	.804	.578	.291	.443	.365	.760	
SAT	.909	.769	.397	.703	.497	.454	.877

Note: The bold diagonal numbers represent the square root of AVE

The fit of the structural model with the data is also good, as shown by GOF indices: $\chi^2 = 116.98$, $df = 83$, $\chi^2/df = 1.41$, $CFI = 0.973$, $NNFI = 0.966$, $GFI = 0.923$, $RMSEA = 0.048$, $SRMR = 0.0571$. The model estimation results for the first sample are presented in Figure 3.

Figure 3
Model Estimation Results – Second Sample (N=180)



The paths from SSE to SEA ($\beta = .47$, $p < .001$), SSE to SEC ($\beta = .43$, $p < .001$), and CSE

to SEC ($\beta = .23, p = .004$) are significant so the hypotheses H1, H2, and H4 are supported. The path from CSE to SEA is not significant therefore hypothesis H3 is not supported. The paths from SEA to SEC ($\beta = .35, p < .001$) and from SEC to SAT ($\beta = .71, p < .001$) are significant so the hypotheses H5 and H6 are also supported.

Overall, the model explains a 27.3% variance in self-efficacy with self-regulated learning, 63.8% in self-efficacy with the course, and 50.3% in satisfaction with the class.

Discussion

This research contributes with an empirically validated model that explains the relationship between self-efficacy with the course and satisfaction with the class. In this model, self-efficacy with the course has three antecedents: social self-efficacy, self-efficacy with self-regulated learning, and computer self-efficacy. Since the model has been cross-validated on a second sample, the scale is reliable for an exploratory study.

A closer examination of data reveals that SSE1 (participating in class discussion) and SSE2 (asking a question in class) have the lowest mean values of the respective construct. To increase self-efficacy, teachers should improve the teaching method by focusing on interactivity and leaving more time for students' questions. Last but not least, they should find ways to stimulate students to ask questions and discuss.

In both samples, the H1, H2, H4, H5, and H6 hypotheses were supported thus showing that social self-efficacy has a positive influence on self-efficacy with self-regulated learning ($SSE \rightarrow SEA$); social self-efficacy has a positive influence on the self-efficacy with the course ($SSE \rightarrow SEC$); computer self-efficacy has a positive influence on the self-efficacy with the course ($CSE \rightarrow SEC$); self-efficacy with self-regulated learning has a positive influence on the self-efficacy with the course ($SEA \rightarrow SEC$); self-efficacy with the course has a positive influence on satisfaction with the class ($SEC \rightarrow SAT$).

Hypothesis H3 is confirmed only in the case of the first sample showing that computer self-efficacy has a positive influence on self-efficacy with self-regulated learning ($CSE \rightarrow SEA$); for the second sample hypothesis H3 is not confirmed. In the present research, computer self-efficacy (CSE) refers to how well students can use a learning platform even if there is no one to teach them, how well they can use a learning platform with minimal help, and how they can learn how to use a learning platform on their own. Therefore, this result needs to be studied in future research to identify more clearly the factors that determine the differences in perception between the two groups of students, especially as the students in the second sample also used modern technology and educational platforms for online learning during the pandemic.

The research has revealed that there is a significant relationship between perceived self-efficacy with the course and satisfaction with the class. This result is consistent with the results of similar studies cited in this paper (Bandura, 1993; Kryshko et al., 2022; Prifti, 2022; Schunk & DiBenedetto, 2021; Shen et al., 2013).

The strength of the path from self-efficacy with the course to satisfaction with the class and the variance explained in the former variable shows that computer social self-efficacy and computer self-efficacy are important prerequisites for self-efficacy with the course which, in turn, has an important influence on the satisfaction with the class. The strength of the relationship between self-efficacy and satisfaction with the class is consistent with other findings in the literature. Recently, Bismala et al. (2022) found a strong correlation (.749 significant at 0.01 level) between self-efficacy and student satisfaction in using e-learning.

The results showed that respondents believe that social self-efficacy has a positive influence on self-efficacy with self-regulated learning and also on self-efficacy with the course, thus revealing the importance of developing students' social self-efficacy as an educational implication of this study. The role of the teacher must extend beyond the boundaries of knowledge

transfer, they must develop students' non-cognitive skills, attitudes, and self-esteem. Thus, the teaching methods should be interactive, and active-participatory, the feedback provided be constructive, and more emphasis to be placed on developing students' communication skills, critical thinking, and creativity and creating an effective climate conducive to personal development.

The results also showed that computer self-efficacy has a positive influence on the self-efficacy with the course, especially since post-pandemic education has integrated and valued the digital component in the educational process (learning platforms where students find courses and other useful learning materials, post assignments, communicate, socialize, etc.). This result was expected.

The findings of this study are in agreement with the ideas of Bandura's Social Cognitive Theory (1986), which supports the role of self-efficacy in achieving personal performance and well-being. According to the author, students' knowledge and cognitive skills are necessary but not sufficient for academic achievement, thus perceived self-efficacy is the lever that mobilizes the cognitive, affective, and motivational resources needed to succeed (Bandura, 1997, p. 227). In this sense, self-efficacy is a powerful inner resource with multiple benefits for students (Bandura, 1993; DeFreitas & Bravo Jr., 2012; Schunk et al., 2008; Schunk & DiBenedetto, 2021).

Since this study is exploratory, there are some inherent limitations. The first limitation is the small sample size, which is at limits for structural equation modeling requirements. The second limitation is that students come from only one university so results could not be generalized at the country level. The third limitation is related to the fact that second-year students were not included in the research sample.

Conclusions and Implications

In the academic context, and especially from the perspective of teacher career training, perceived self-efficacy has fundamental roles and benefits for both students and teachers. Understanding the importance of developing students' self-efficacy can transform the educational process into a positive experience full of opportunities both for its educational actors and for the educational environment as a whole.

In the context of a course, perceived self-efficacy refers to an individual's sense of competence concerning their ability to learn and perform well in the course. Believing that their efforts will lead to positive outcomes and anticipating the associated positive emotions will make students more engaged and willing to take responsibility for their learning. Thus, students with high levels of perceived self-efficacy are more active, and motivated to complete academic tasks. Also, students who are more confident in their ability to cope with academic demands are less anxious in learning and assessment situations and use their knowledge and skills more effectively. For them, failure is perceived as a temporary challenge to be overcome. Thus, students' confidence in their capabilities acts as a dynamic factor and facilitates active learning and engagement in course activities, which in turn increases their sense of self-efficacy, thus initiating a cycle in which success in prior learning leads to increased self-confidence and thus to future success. As a result, they will achieve better results, and be more creative, autonomous, and effective in learning. In addition, student self-efficacy has positive effects in overcoming obstacles/problem-solving, educational decision-making, managing stress, reducing exam anxiety and managing emotions in the assessment context, stimulating potential, and developing new skills that are important in everyday life and career.

Moreover, students with a high level of self-efficacy are more likely to choose fields of study and careers that match their interests and abilities, which contributes to long-term satisfaction. They also tend to set high but realistic goals and reach their full potential.

Also, in the academic environment, developed social self-efficacy is reflected in authentic and quality social and interpersonal relationships, as confidence in one's communication, cooperation, and conflict-resolution skills contribute to improving relationships and creating an educational climate conducive to personal and professional development. Teachers can contribute to students' increased confidence in their abilities and thus to good learning outcomes and course satisfaction.

One of the implications of studying student self-efficacy is to provide important clues for educational interventions for students with low self-efficacy. Teachers can recognize a range of indicators of low self-efficacy and implement strategies and interventions focused on improving their confidence and performance.

Being aware that self-efficacy is closely linked to students' intrinsic motivation for learning and self-esteem, teachers can devote more attention and effort to developing this dimension of students' personalities.

Conflicts of Interest

The authors declare no conflict of interest.

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Elena-Ancuța Santi
(Corresponding author)

PhD, Lecturer, Teacher Training Department, Valahia University Targoviste, 35 Lt. Stancu Ion Street, 130105 Targoviste, Romania.
E-mail: santi.anca84@gmail.com
Website: <https://www.researchgate.net/profile/Elena-Santi-2>
ORCID: <https://orcid.org/0009-0001-5691-5854>

Gabriel Gorghiu

PhD, Professor, Teacher Training Department, Valahia University Targoviste, 35 Lt. Stancu Ion Street, 130105 Targoviste, Romania.
E-mail: ggorghiu@gmail.com
Website: https://www.researchgate.net/profile/Gabriel_Gorghiu
ORCID: <https://orcid.org/0000-0002-4026-345X>

Costin Pribeanu

PhD, Senior Researcher, Academy of Romanian Scientists, Ilfov Street no. 3, sector 5, 050044 Bucharest, Romania.
E-mail: costin.pribeanu@gmail.com
Website: https://www.researchgate.net/profile/Costin_Pribeanu
ORCID: <https://orcid.org/0000-0001-8182-5909>



THE INFLUENCE OF SELECTED FACTORS ON THE LOWER SECONDARY SCHOOL TEACHERS' PERCEPTION OF MEDIA EDUCATION

Dagmar Sochorova

Masaryk University, Czech Republic
E-mail: sochorova.dagmara@gmail.com

Milan Kubiátko

J. E. Purkyne University, Czech Republic
E-mail: mkubiátko@gmail.com

Abstract

Media education is an educational subject whose parent fields are not firmly defined. It is located at the intersection of subjects like pedagogy, media studies, film science, aesthetics, sociology, psychology and other humanities and social disciplines. The aim of the research was to determine the influence of various factors on the perception of media education among teachers. 600 teachers participated in the research, and the research tool was a self-designed questionnaire. It was divided into several parts, with the media part containing 12 items focused on the perception of education. The multiple regression model was used as the statistical method for the identification of significant factors. Also, Pearson's correlation coefficient and a student t-test were used for the identification of a significant relationship and whether the use of different methods and forms had a significant effect on media education perception. The length of teaching experience, the benefits of media education in the areas of knowledge, abilities and skills, as well as the last variable – receptive circles, were shown to be significant factors. Higher implementation of media education into the school subjects would be beneficial for every participant of the teaching process.

Keywords: teachers' perception, media education, multiple regression model, quantitative approach

Introduction

The world we live in today is overflowing with stimuli spread through the mass media. They take the form of visual images, sounds and information spoken in natural language. It is increasingly difficult to navigate through the flood of mass media production in a globalizing society, both for students and for teachers themselves. As a result of cultural and social changes, students and teachers are confronted with an excess of information, which they are often unable to analyze sufficiently. It is, therefore, necessary, even at lower secondary schools, to deal intensively with the issue of media education (hereafter also "ME"), which should react to technical, social, and economic changes and trends in the international context of mass media. Media education at lower secondary schools has been established in the Czech educational system as one of the cross-curricular themes of the Framework Educational Program for Primary Education (2005). With this inclusion, media education became a mandatory part of the curriculum. Cross-curricular topics represent areas of current issues in the contemporary world and form a mandatory part of compulsory education. According to the Framework Educational Program for Basic Education, media education is intended to provide elementary knowledge

and skills regarding media communication and work with the media. In order for students to be useful to society, it is becoming increasingly important to be able to process, evaluate and make use of stimuli that are produced through the media. Media Education is taught in nearly 95 % in the subject of Czech Language and Literature and the rest is divided among subjects like Civic Education, Informatics and Foreign languages.

Media Education

Media education is a cross-sectional subject, which is taught in different school subjects, mainly in the lessons of Czech Language and literature. It is understood as education for orientation in mass media, how to use it and at the same time how to critically evaluate it. It is a process of teaching and learning about the media, the main aim of which is to impart knowledge to students and help them develop skills that will help increase their media literacy and critical reflection on media images, texts and messages produced by the mass media. Together with other cross-curricular topics, it contributes to the development of the attitudes and values of each student, introduces them to the essence and basic properties of modern media and develops the media competence of individuals (Hobbs et al., 2018; Kaur et al., 2015; Lauricella et al., 2020; Lu et al., 2023; Mino & Rogers, 2020; Rivera-Rogel et al., 2017; Tiede et al., 2015). Media education mainly pursues two basic aims. One of these is the formation and cultivation of critical reflection on the media and its contents among recipients. The critical-hermeneutic branch of media education deals with this area. The second basic aim of media education is the practical preparation of individuals for using media. This concept is called learning by doing, i.e., the skill branch of media education. Also, ME teaching is a relatively new subject, it could be in certain conditions a challenge for teachers, not only of the Czech language and literature. The teachers, by the teaching of new subjects, which is typical for more than one subject, are constrained to learn new kinds of information regarding actual topics. Media education also supports critical thinking, not only for learners but also for teachers, who are exposed to solving new problematic situations (e.g., Tommasi et al., 2023).

The way in which media education is perceived and evaluated by teachers is not a frequent research topic. It is usually on the fringes of researchers' interest. The importance of media education for teachers and subsequently for students is noted in the work of authors Christ and Potter (1998). Other research studies focus on whether and how mass media can significantly shape the knowledge, thinking, experience and actions of its addressees. Research into the socializing function of the media most often focuses on determining the influence of the media on children, the influence of violence in the media and the influence of the media on the formation of values. One of the most extensive pieces of research concerning the use of new digital media (internet, mobile phone, video games, etc.) by young people aged 12 to 18 was the Mediapro project (2005-2006), which took place in nine European countries. Accordingly, a questionnaire in which approximately 9,000 respondents participated, 240 respondents were selected and interviewed individually. The results showed that the number of new users of media is growing, which can actually lead to isolation of the part of the population that does not have access to the monitored media. Similar results are reported by a number of studies, according to which the proportion of students who have unlimited access to and use of the Internet is increasing. As research results indicate, unlimited use of the Internet can lead to mental disorders in students (e.g., Chaudhari et al., 2015; Chin et al., 2017; Tarimo & Kavishe, 2017). Internet use has also been found to have an effect on increased rates of cheating in exams (Anney & Mosha, 2015; Diedenhofen & Musch, 2017; Kaur, 2018; Mellar et al., 2018; Tayan, 2017; Wang et al., 2015). Teachers must respond appropriately to the use of the Internet in order to prevent this inappropriate activity for students as much as possible (Waheed & Jam, 2010). However, this requires not only adequate teacher training but also familiarity

with media education as well as orientation in mass media, not only the use of the Internet as a communication medium (Chaka & Govender, 2020; Hasan & Akbar, 2020). Examining teachers' perceptions of media education also includes the detection of aggressive behavior that can occur with excessive media use. A number of longitudinal studies have mainly been based on the assumption that children who watch a lot of violence have an increased risk of aggressive behavior (cf. Anderson & Bushman, 2001). The influence of the media on children was also discussed by Buckingham (2000), and the influence of the media on social behavior was discussed, for example, by Meyrowitz (1985). It is also possible to find other studies with similar results (e.g., Bushman, 2016; Coyne et al., 2018; Padilla-Walker et al., 2016).

Research Aim and Question

As already mentioned above, the research studies focused on the influence of different factors on the perception of media education by teachers are rare, or almost not at all. The main aim of the research was to determine the influence of selected variables (listed in the methodology section) on the perception of media education among teachers.

On the basis of the aim, the following research question was formulated: What is the influence of selected variables (listed in the methodology section) on the perception of media education among teachers?

Research Methodology

General Background

The study has a quantitative approach to obtaining and analyzing data. To obtain the answer to a research question, a questionnaire administered to a sample of Czech in-service lower secondary school teachers was a choice. The questionnaire included demographic variables and scales regarding teachers' perception of media education and the implemented form of media education (this one contained 7 thematic areas). Data were collected from 600 teachers in the Czech Republic using convenience sampling. The questionnaires were distributed in electronic form during the second term in the academic year 2021/2022 and the data collection took three months. Completion of the questionnaire was voluntary, and anonymity was guaranteed. No benefits were offered to those who provided responses.

Sample

The sample was made up of lower secondary school teachers (Czech language and literature) at lower secondary schools. The reason for the Czech language and literature teachers was that the teaching process of media education is nearly always connected with the subject of Czech Language and Literature in primary and upper-secondary schools (CSI, 2018). All the schools were approached through their head teachers. The principals of schools administered a questionnaire among teachers, and they could decide if to fill questionnaire or not. Personal information was not required from respondents. 600 Czech language and literature teachers from all the schools filled out the questionnaire. In determining the sample size, it was considered the information from Mundfrom et al. (2013), who presented rules about having 10 participants per item in the questionnaire. With the 55 items used in the questionnaire, the presented sample is adequate, and it ensures a high level of representativeness and enhanced reliability. Fan et al. (2017) stated a formula for sample size and provided a calculator. With respect to the number of Czech language teachers (from the official statistics of the Czech Ministry of Education), the minimum amount for the sample was 435 respondents (Confidence level = 95 %; Margin

of Error = 3.82 %). The average age of the respondents was $M = 43.68$; $SD = 10.44$ ($Min = 23$; $Max = 72$). The basic independent variables are shown in Table 1.

Table 1
Basic Independent Variables

Variables	Groups of Variables	Absolute Frequency
Gender	Male	67
	Female	533
Length of teaching experience	0–5 years	92
	6–20 years	211
	More than 20 years	297
Implementation of media education as a separate subject	Compulsory subject	122
	Optional subject	109
	It is not taught	369
The possibility to influence the content of the subject of media education	Yes	324
	No	276
Implementation of media education (number of years)	1 year	42
	2 years	81
	3 years	119
	4 years	122
	5 years	122
	6 years	32
	7 years and more	82
Completion of a media education course	Yes – course accredited by the Ministry of Education	106
	Yes – course not accredited by the Ministry of Education	34
	No	460
Frequency of implementation of media education	At least once a week	204
	At least once a month	324
	At least once every 6 months	72

One notice in Table 1, there is presented variable “Length of teaching practice”. The first group was beginning teachers, where the length of experience is maximally 5 years (Spooner-Lane, 2017). The teachers with longer teaching experience also served as mentors and in some studies, it is possible to find, that mentors are teachers above 20 years of teaching experience (e.g., Bressman et al., 2018).

Research Tool

The research tool was a questionnaire. The first version of the questionnaire was consulted with experts in methodology and pedagogy as well as experts in media education and media studies. Based on the evaluation of these recommendations, some items of the questionnaire were adjusted, and its final version was created and subsequently verified by preliminary research (Strejckova, 2011).

The final version of the questionnaire consisted of:

- The first part of the questionnaire contained 3 items that ascertained basic data about the respondent (gender, age, length of teaching experience).
- The second part of the questionnaire contained a group of twelve scaled items related to the teacher's perception of the media education curriculum. Each item contained 5 points on the Likert scale (strongly disagree ... definitely agree). Ten items were formulated positively, and two items were stylized negatively, to avoid negative statements (Croasmun & Ostrom, 2011; Roberts et al., 1999).
- The third part of the questionnaire focused on the implemented form of the media education curriculum. Each statement contained 5 points on the Likert scale. The thematic areas were the following: 1. Critical reading and perception of media messages (5 statements); 2. Interpretation of the relationship between media messages and reality (5 statements); 3. Construction of media messages (3 statements); 4. Perception of the author of the media messages (3 statements); 5. Function and influence of the media in society (5 statements); 6. Creating a media message (3 statements); 7. Working in an implementation team (3 statements). The last two were productive circles and the others were receptive circles. In this context, the receptive circle (or receptive learning) relates to the activities in the classes and the productive circle (or productive learning) relates to the learning outside of the class, where the student uses their own skills and previous knowledge. Another group of items focused on the benefits of media education in two areas. The first included benefits in the areas of knowledge, skills and abilities, with 11 scaled items, and the second included benefits in the areas of attitudes and values, with 5 scaled items. The last two items focused on the use of didactic methods and organizational forms in the teaching of media education. Each one was assessed dichotomously (1 – yes; 0 – no). This last item of the research tool, as it is obvious, had two possibilities, but there was also space for the answer if the options were not satisfactory.

The research tool is too long and some parts of it relate to other research. The complete questionnaire is located in we link: https://docs.google.com/forms/d/e/1FAIpQLSfnfWMrIU3BL8kna_QT7PrIvP1SOHg0AFX0ZL_wqM8gBfPv7Q/viewform?formkey=dDVHbTJEdmtvTjBQTWo0X3c4UkRwSUE6MQ

After recording the data, the reliability of the individual groups formed by the scaled items was determined. The reliability of the instrument regarding the perception of media education was ($\alpha = .70$). The group of items related to the inclusion of media education in teaching also reached a value that indicates high reliability ($\alpha = .93$). The reliability values for individual thematic areas ranged from .64 to .83. The group of items relating to benefits achieved a reliability value of $\alpha = .90$. The part focused on knowledge, skills and abilities reached $\alpha = .88$ and the part focused on attitudes and values reached $\alpha = .85$.

Data Analysis

Correlations between several independent indicators (see Results) and the dependent variable (perception of media education) were calculated using multiple regression analysis.

Multiple regression analysis (forward stepwise method) was used to select the most economical model. Multiple regression analysis describes the relationship between one dependent (criterion) variable and multiple independent variables. In testing, the focus is on finding how groups of independent variables predict the dependent variable. The data were first tested for normal distribution using the Kolmogor-Smirnov test, which confirmed the normal distribution of the data ($d = .05$; $p > .10$). The t -test for independent samples was used for differences in the perception of media education regarding the use of didactic methods and organizational forms.

Research Results

Multiple regression (forward stepwise method) of the perception of media education as a dependent variable with independent predictors, shown in Table 2, led to a significant model that explained 44% of the variance of the results ($R^2 = .44$, $F(12, 585) = 11.64$, $p < .001$).

Table 2

Multiple Regression (Forward Stepwise Method) of the Perception of Media Education

Variables	<i>B</i>	<i>B</i> ± <i>SE</i>	<i>B</i>	<i>B</i> ± <i>SE</i>	<i>t</i>	<i>p</i>
Interception			-18.76	8.66	2.17	< .05
Gender	.06	.04	.09	.05	1.69	.09
Age	-.01	.08	.00	.00	.09	.93
Length of teaching experience	.20	.08	.12	.05	2.58	< .05
Media education as a subject	.01	.04	.01	.03	.34	.73
Influence of media education	.03	.04	.02	.03	.69	.49
Length of implementing ME	-.05	.04	-.01	.01	1.05	.29
Media Education course	-.06	.04	-.04	.03	1.45	.15
Frequency of implementing ME	.03	.04	.01	.02	.77	.44
Benefits of ME – knowledge, skills, abilities	.31	.07	.23	.05	4.70	< .001
Benefits of ME – attitudes, values	-.08	.06	-.05	.04	1.37	.17
Receptive circles of ME	.15	.06	.10	.04	2.62	< .01
Productive circles	.00	.05	.00	.03	.00	1.00

Respondents with the longest teaching experience perceived media education the most positively ($M = 3.72$; $SE = .02$). Respondents with the shortest teaching experience had the least positive perception of media education ($M = 3.48$; $SE = .04$). The last group of respondents achieved an average score of $M = 3.56$; $SE = .03$. A significant positive relationship was found between the item related to the benefits of ME – knowledge, skills and abilities and the perception of ME, as well as between the receptive circles and the perception of ME. The other variables did not have a significant effect on the perception of media education.

Multiple regression (forward stepwise method) of the perception of media education as a dependent variable with independent predictors consisting of individual thematic areas that teachers can incorporate into teaching (see Table 3) resulted in a significant model that explained 36 % of the variance of the results ($R^2 = .36$, $F(7, 591) = 12.59$, $p < .001$).

Table 3

Multiple Regression (Forward Stepwise Method) of the Perception of Media Education with Independent Predictors Formed by Individual Thematic Areas

Variables	B	B ± SE	B	B ± SE	t	p
Interception			2.63	.12	22.28	< .001
Critical reading	.19	.06	.12	.04	3.40	< .001
Interpretation of media message relationship	.02	.06	.01	.04	.35	.72
Structure of media message	.04	.06	.02	.03	.71	.48
Perception of the author of the media message	-.03	.05	-.01	.03	-.47	.64
Function and influence of media in society	.14	.05	.08	.03	2.77	< .01
Creation of media messages	.00	.06	.00	.03	.03	.98
Teamwork	.07	.05	.03	.02	1.42	.16

Partial correlations were carried out to verify other relationships between the thematic areas of ME that teachers can include in teaching. The results are presented in Table 4. Although the most of correlations are moderate (all are significant), they showed consistent patterns.

Table 4

Partial Correlation Between the Thematic Areas of ME

	BME – A,V	CR	IMMR	SMM	PAMM	FIMS	CMM	TM
BME – K,S,A	.73	.52	.57	.54	.56	.59	.55	.58
BME – A,V		.41	.52	.42	.49	.50	.42	.39
CR			.66	.58	.55	.53	.50	.45
IMMR				.62	.64	.53	.53	.45
SMM					.57	.59	.56	.44
PAMM						.51	.49	.35
FIMS							.50	.37
CMM								.64

all relationships among variables are significant, $p < .001$

Legends: BME – K,S,A – Benefits of Media Education – knowledge, skills, abilities; BME – A,V – Benefits of Media Education – attitudes, values; CR – Critical reading; IMMR – Interpretation of media message relationship; SMM – Structure of media message; PAMM – Perception of the author of media message; FIMS – Function and influence of the media in society; CMM – Creation of media messages; TM – Teamwork

Other results focused on identifying differences in the perception of media education with respect to the use or not use of different teaching methods and organizational forms. If any teaching methods were used, the perception of media literacy would be significantly more positive (except for brainstorming). From organizational forms, only individual teaching and project-based teaching had a significant effect; the using or not-using of others did not have an influence on the perception of media education. The t-test and mean score values are presented in Table 5.

Table 5

Differences in the Perception of Media Education with Respect to the Use of Teaching Methods and Organizational Forms.

	<i>M yes</i>	<i>M no</i>	<i>t</i>	<i>p</i>
Methods				
Dialogic methods	3.66	3.56	2.85	< .01
Work with a text	3.66	3.54	2.82	< .01
Opinion teaching	3.69	3.58	2.99	< .01
Practical teaching	3.76	3.60	3.18	< .01
Problem methods	3.73	3.58	4.11	< .001
Project methods	3.69	3.60	2.13	< .05
Situational methods	3.79	3.59	4.73	< .001
On-stage methods	3.71	3.58	3.65	< .001
Didactic games	3.71	3.58	3.52	< .001
Brainstorming	3.63	3.63	0.02	.98
Organisational Forms				
Frontal teaching	3.62	3.63	0.21	.84
Group work	3.66	3.59	1.87	.06
Individual work	3.72	3.61	2.55	< .05
Block teaching	3.69	3.62	1.11	.27
Project work	3.70	3.60	2.44	< .05
Excursions	3.71	3.62	1.80	.07

Discussion

The aim of the research was to determine the influence of various factors on the perception of media education among teachers. The mentioned research is rare in the research field of social sciences. There is only a small amount of research in the field of media education. In the countries of Central Europe, this is one of the first comprehensive studies devoted to this problem.

The length of teaching experience proved to be an important factor in the perception of media education. Respondents with the longest experience achieved the highest score, which indicates that their perception of media education is consistent, and they include it extensively in the teaching process, either as a separate subject or as part of another subject. However, the respondents with the shortest experience achieved the lowest score, which may indicate less interest in implementing the issue of media education in the teaching process. This result is surprising, especially considering the results of some other research, which showed that the younger teachers were more willing to include elements that brought new methods or forms, thereby contributing to a more attractive lesson (e.g., Bond et al., 2018; O'Bannon & Thomas, 2014; Simmons et al., 2017; Wang et al., 2018). The results could be caused by the factor of longer experience in teaching and thus also greater implementation of media education methods in teaching. Teachers with a short period of teaching experience were probably forced

to connect information from several subjects at the start of their teaching, which was very stressful for them at the beginning of their career. As they may have less information from other subjects that may not be related to their specialisation, they probably perceive not only media education as a separate subject as somewhat more problematic but also media education as a cross-curricular topic that can be part of several subjects. Skaalvik and Skaalvik (2015) also drew attention to the abovementioned problem, pointing out that novice teachers have a higher level of stress related to coping with the teaching profession.

Another significant relationship was identified between the benefits of media education in the areas of knowledge, skills and abilities and the perception of media education. It is possible to interpret the stated findings in such a way that teachers who perceive media education positively are also aware that media education has a positive effect on the development of knowledge, skills and abilities in the given subject. This phenomenon in relation to media education has not yet been published, but it is possible to find it in relation to other subjects, where the authors reached similar results as in our case (e.g., Brooks & Freeman, 2018; Hansson et al., 2017; Karatas et al., 2017). An explanation for the positive relationship between the mentioned variables, which was also confirmed by other research, is the fact that teachers who had a tendency to trust media education as a cross-curricular topic also had more trust in increasing their students' knowledge, skills or abilities to understand the connection between the individual subjects that media education brings and to increase their cognitive potential, all of which media education can provide.

The last variable that appeared significant in the regression model was the item related to the receptive circles of media education, which were positively correlated with the perception of media education among teachers. Receptive circuits do not require the creation of products but are focused on activities that are related to a critical view of the thematic circuits discussed, identification of opinions or argumentative activities. The stated relationship that was examined in the research was too specific, which is why it was difficult to find it in other research, so it was not possible to compare our results with the findings of other authors. Within the given result, why did receptive circles have a positive effect on the perception of media education among teachers, while productive circles did not show the mentioned relationship? A possible answer is offered in the sense that productive activities that require more time in media education classes are less interesting for teachers and especially demanding to prepare. Teachers might also assume that students are not very interested in this type of activity. On the other hand, receptive activities could be easier for teachers in the above parameters and less difficult to prepare. Students could be more enthusiastic during these activities, which were reflected in the positive relationship between the mentioned (receptive) circles. The mentioned activity may also be related to the fact that the current era makes it possible to hide behind a computer monitor and write one's own opinions without the possibility of directly identifying the author of the post on the social network. This activity is advantageous for many people, and so it can also be seen in relation to media education as a subject. Even teachers could perceive the mentioned situation as beneficial. Krobholz et al. (2015) and Sahoo and Gupta (2020) also reported on the mentioned phenomenon.

Another interesting result was identified with regard to the perception of media education and the use of teaching methods and organizational forms. When evaluating the teaching methods, it was found that almost all of them (except brainstorming) showed a significant difference. This significant difference was always identified in favor of the methods that were used within media education, which proves that when not using the teaching method, the perception of media education was more negative, regardless of whether the teaching method is one of the classically used teaching methods. such as, for example, dialogic methods, or a more modern method such as project work. On the other hand, it was interesting that the teaching/organizational forms were insignificant when it came to evaluating the perception of

media education among teachers. The only significant difference was seen within individual and project teaching when it was proven in both that teachers who used the given forms had a more positive perception of media education. Individual teaching provides the opportunity to cooperate with students and to reveal their possible cognitive and affective inconsistencies in the given subject, which is why teachers feel that individual teaching contributes to a positive perception of media education. It is similar within project teaching, where there is direct interaction between the teacher and students and the mentioned phenomenon can have a positive effect on the perception of media education.

Conclusions and Implications

Media education is one of the cross-curricular topics within the local education system. Media education, based on the findings of research, is not a marginal area, but is part of the teaching process and has a firm place in it. Media education is taught either as a separate subject or as a part of a group of subjects. Unfortunately, not all teachers implement the mentioned cross-curricular subject in their teaching, and often there is a lack of support from head teachers. The results showed that teachers with a short period of practical experience have a quite negative perception of media education as a cross-curricular topic implemented in teaching. It would therefore be appropriate to think about whether the education of future teachers at university should be modified in favor of media education. The mentioned subject/course is often mentioned only as marginal, and future teachers have only a few opportunities to prepare for the real teaching process which the inclusion of media education requires. It was found out that some variables had a significant influence on the media education perception by teachers. The teachers with longer practice perceived media education more positively in comparison with younger ones. It could be caused by insufficient focus on intersection subjects and teachers at the starting point of their career are not able to connect different kinds of information from diverse topics. A higher focus on intersection subjects during the preparation of teacher profession could be useful. If teachers saw the benefits of media education, their perception toward this intersection subject would be more positive, as it is a little bit connected with the curriculum and other school documents. If principals of schools were open to the implementation of media education, this intersectional subject would be more understood. This statement is also valid for the incorporation of different teaching methods and organizational forms into the teaching process of media education.

As mentioned above, the perception of media education as a subject or course is often neglected even by researchers and the issue is marginalized. But as it is clear from research, media education is gaining importance. However, as it is also seen from the results, even media literacy is important for every participant of the learning process, in many cases, the subject of media education is laid back at the expense of the main subjects like the Czech language, Civic education and others. The effort of school policymakers could be to pay more attention to the topics regarding Media education. Nowadays, it is very important that every layer of society can work with the information provided by different platforms and also that they are able to select the messages that are true and not spread conspiracies and hoaxes. Therefore, there is an obvious need to conduct research not only among teachers but also among students which would relate to finding out what their skills are in processing information, whether they can think critically or distinguish true from false information, and what their media literacy is like. Other possibilities for further research are the experience with teaching media education among teachers, the level of teachers' media literacy and others, which can influence the media education perception by teachers.

Declaration of Interest

The authors declare no competing interest.

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Dagmar Sochorova

PhD, Department of Czech Language and Literature, Faculty of Education, Masaryk University, Porici 7, 60300 Brno, Czech Republic.
E-mail: sochorova.dagmara@gmail.com
ORCID: <https://orcid.org/0000-0003-1572-0492>

Milan Kubiátko
(Corresponding author)

PhD, Researcher, Department of Preschool and Primary Education, Faculty of Education, J. E. Purkyne University, Pasteurova 1, 40096 Usti nad Labem, Czech Republic.
E-mail: mkubiátko@gmail.com
ORCID: <https://orcid.org/0000-0002-4343-9609>



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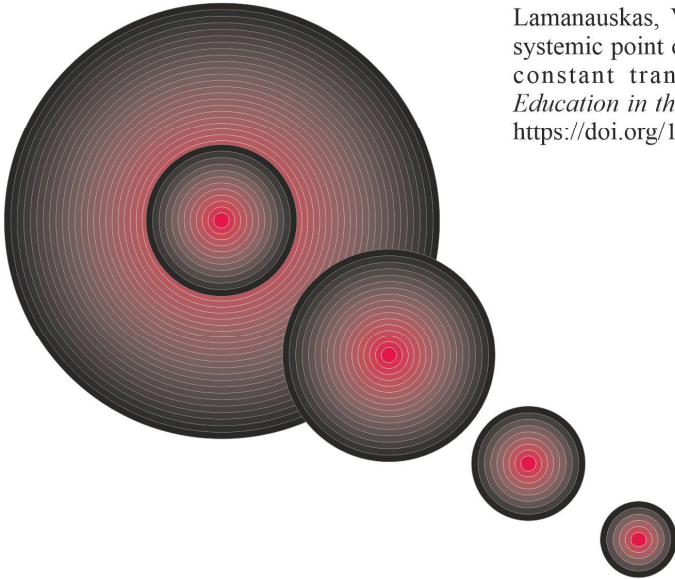
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...It is generally undeniable that education is a complicated and complex system. Moreover, it is an integrated and integral system of teaching and learning at different levels and in different contexts. In the public academic educational discourse, the need to search for modern teaching and learning methods is constantly expressed so that educational institutions can better respond to the changing educational needs of learners and society. However, there is no unequivocal answer to what is “modern”. Complex knowledge of education systems (and education as a system) guarantees effective educational changes in them. If we are talking about scientific knowledge of educational phenomena, it cannot be otherwise. Based on this point of view, most educational phenomena and processes can be called systems'. ...



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